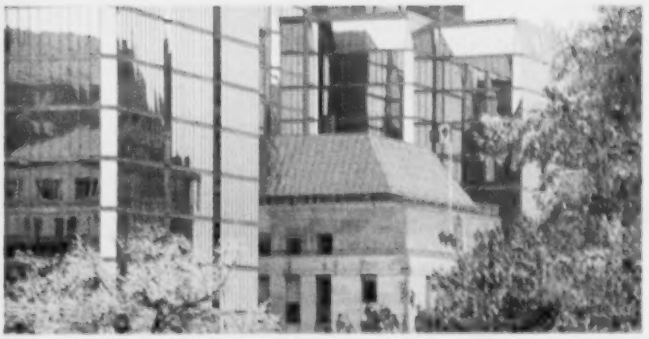
BANK OF CANADA
BANQUE DU CANADA

Monetary Policy Report

October 2012



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Canada's Inflation-Control Strategy[1]

Inflation targeting and the economy

- The Bank's mandate is to conduct monetary policy to promote the economic and financial well-being of Canadians.
- Canada's experience with inflation targeting since 1991 has shown that the best way to foster confidence in the value of money and to contribute to sustained economic growth, employment gains and improved living standards is by keeping inflation low, stable and predictable.
- In 2011, the Government and the Bank of Canada renewed Canada's inflation-control target for a further five-year period, ending 31 December 2016. The target, as measured by the total consumer price index (CPI), remains at the 2 per cent midpoint of the control range of 1 to 3 per cent.

The monetary policy instrument

- The Bank carries out monetary policy through changes in the target overnight rate of interest.[2] These changes are transmitted to the economy through their influence on market interest rates, domestic asset prices and the exchange rate, which affect total demand for Canadian goods and services. The balance between this demand and the economy's production capacity is, over time, the primary determinant of inflation pressures in the economy.
- Monetary policy actions take time—usually from six to eight quarters—to work their way through the economy and have their full effect on inflation. For this reason, monetary policy must be forward looking.
- Consistent with its commitment to clear, transparent communications, the Bank regularly reports its perspective on the forces at work on the economy and their implications for inflation. The *Monetary Policy Report* is a key element of this approach. Policy decisions are typically announced on eight pre-set days during the year, and full updates of the Bank's outlook, including risks to the projection, are published four times per year in the *Monetary Policy Report*.

Inflation targeting is *symmetric* and *flexible*

- Canada's inflation-targeting approach is *symmetric*, which means that the Bank is equally concerned about inflation rising above or falling below the 2 per cent target.
- Canada's inflation-targeting framework is *flexible*. Typically, the Bank seeks to return inflation to target over a horizon of six to eight quarters. However, the most appropriate horizon for returning inflation to target will vary depending on the nature and persistence of the shocks buffeting the economy.

Monitoring inflation

- In the short run, a good deal of movement in the CPI is caused by fluctuations in the prices of certain volatile components (e.g., fruit and gasoline) and by changes in indirect taxes. For this reason, the Bank also monitors a set of "core" inflation measures, most importantly the CPIX, which strips out eight of the most volatile CPI components and the effect of indirect taxes on the remaining components. These "core" measures allow the Bank to "look through" temporary price movements and focus on the underlying trend of inflation. In this sense, core inflation is monitored as an *operational guide* to help the Bank achieve the total CPI inflation target. It is not a replacement for it.

1. See *Joint Statement of the Government of Canada and the Bank of Canada on the Renewal of the Inflation-Control Target* (8 November 2011) and *Renewal of the Inflation-Control Target: Background Information—November 2011*, which are both available on the Bank's website.
2. When interest rates are at the zero lower bound, additional monetary easing to achieve the inflation target can be provided through three unconventional instruments: (i) a *conditional* statement on the future path of the policy rate; (ii) quantitative easing; and (iii) credit easing. These instruments and the principles guiding their use are described in the Annex to the April 2009 *Monetary Policy Report*.

The *Monetary Policy Report* is available on the Bank of Canada's website at **bankofcanada.ca**.

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Monetary Policy Report

October 2012

This is a report of the Governing Council of the Bank of Canada:
Mark Carney, Tiff Macklem, John Murray, Timothy Lane, Jean Boivin and Agathe Côté.

This report includes data received up to 19 October 2012.

"While Canada's economy is being affected by the global angst, the key areas of uncertainty abroad are all points of justifiable confidence here at home. Canada's public finances are sound. Monetary policy is clear and credible. Canada's financial system showed itself to be among the most resilient in the world through the crisis. Since then, it has strengthened further."

—Mark Carney

Governor, Bank of Canada
15 October 2012
Nanaimo, British Columbia

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Overview

The global economy has unfolded broadly as the Bank projected in July. The economic expansion in the United States is progressing at a gradual pace. Europe is in recession and recent indicators point to a continued contraction. In China and other major emerging economies, growth has slowed somewhat more than expected, though there are signs of stabilization around current growth rates. Notwithstanding the slowdown in global economic activity, prices for oil and other commodities produced in Canada have, on average, increased in recent months. Global financial conditions have improved, supported by aggressive policy actions of major central banks, but sentiment remains fragile.

In Canada, while global headwinds continue to restrain economic activity, domestic factors are supporting a moderate expansion. Following the recent period of below-potential growth, the economy is expected to pick up and return to full capacity by the end of 2013. The Bank continues to project that the expansion will be driven mainly by growth in consumption and business investment, reflecting very stimulative domestic financial conditions. Housing activity is expected to decline from historically high levels, while the household debt burden is expected to rise further before stabilizing by the end of the projection horizon. Canadian exports are projected to pick up gradually but remain below their pre-recession peak until the first half of 2014, reflecting weak foreign demand and ongoing competitiveness challenges. These challenges include the persistent strength of the Canadian dollar, which is being influenced by safe-haven flows and spillovers from global monetary policy.

After taking into account revisions to the National Accounts, the Bank projects that the economy will grow by 2.2 per cent in 2012, 2.3 per cent in 2013 and 2.4 per cent in 2014.

Core inflation has been lower than expected in recent months, reflecting somewhat softer prices across a wide range of goods and services. Core inflation is expected to increase gradually over coming quarters, reaching 2 per cent by the middle of 2013 as the economy gradually absorbs the current small degree of slack, the growth of labour compensation remains moderate and inflation expectations stay well anchored. Total CPI inflation has fallen noticeably below the 2 per cent target, as expected, and is projected to return to target by the end of 2013, somewhat later than previously anticipated.

The inflation outlook in Canada is subject to significant risks. The Bank's projection assumes that authorities in Europe are able to contain the ongoing crisis, and that the U.S. fiscal cliff will be avoided. Imbalances in the Canadian household sector remain the biggest domestic risk. This risk is two-sided.

The three main upside risks to inflation in Canada relate to the possibility of higher global inflationary pressures, stronger Canadian exports and renewed momentum in Canadian residential investment.

The three main downside risks to inflation in Canada relate to the European crisis, weaker demand for Canadian exports and the possibility that growth in Canadian household spending could be weaker.

Overall, the Bank judges that the risks to the inflation outlook in Canada are roughly balanced over the projection period.

Reflecting all of these factors, on 23 October, the Bank decided to maintain the target for the overnight rate at 1 per cent. Over time, some modest withdrawal of monetary policy stimulus will likely be required, consistent with achieving the 2 per cent inflation target. The timing and degree of any such withdrawal will be weighed carefully against global and domestic developments, including the evolution of imbalances in the household sector.

Global Economy

The global economy has unfolded broadly as the Bank projected in its July *Monetary Policy Report*. While the economic expansion in the United States is progressing at a gradual pace, Europe is in recession, and recent indicators point to continued contraction. In China and other major emerging economies, growth has slowed somewhat more than expected, though there are signs of stabilization around current growth rates. Notwithstanding the slowdown in global economic activity, prices for oil and other commodities produced by Canada have increased, on average, in recent months. Global financial conditions have improved since the last *Report*, supported by the aggressive policy actions of major central banks, particularly the U.S. Federal Reserve, the European Central Bank (ECB) and the Bank of Japan (**Chart 1** and **Chart 2**). Overall sentiment, however, remains fragile.

* *The global economy has unfolded broadly as the Bank projected…*

* *… supported by the aggressive policy actions of major central banks*

Following 3.8 per cent growth in 2011, global economic growth is expected to slow to 3.0 per cent in 2012 and 3.1 per cent in 2013, before rising to 3.5 per cent in 2014 (**Table 1**). The Bank's base-case scenario continues to be predicated on the following two important assumptions: the crisis in the euro area will remain contained, and a severe tightening of U.S. fiscal policy at the beginning of 2013, the so-called "fiscal cliff," will be avoided. The Bank's projections incorporate the impact on the global economy of these and other sources of uncertainty.

Table 1: **Projection for global economic growth**

	Share of real global GDP[a] (per cent)	Projected growth[b] (per cent)			
		2011	2012	2013	2014
United States	19	1.8 (1.7)	2.1 (1.9)	2.3 (2.1)	3.2 (3.0)
Euro area	14	1.5 (1.5)	-0.5 (-0.6)	0.4 (0.3)	1.0 (1.3)
Japan	6	-0.7 (-0.7)	2.2 (2.5)	1.0 (1.3)	1.1 (0.9)
China	14	9.3 (9.3)	7.6 (7.8)	7.7 (7.8)	7.7 (7.8)
Rest of the world	47	4.3 (4.3)	3.2 (3.2)	3.1 (3.2)	3.3 (3.3)
World	100	3.8 (3.8)	3.0 (3.1)	3.1 (3.1)	3.5 (3.5)

a. GDP shares are based on International Monetary Fund (IMF) estimates of the purchasing power parity (PPP) valuation of country GDPs for 2011. Source: IMF, *World Economic Outlook*, October 2012

b. Numbers in parentheses are projections used for the July 2012 *Monetary Policy Report*.

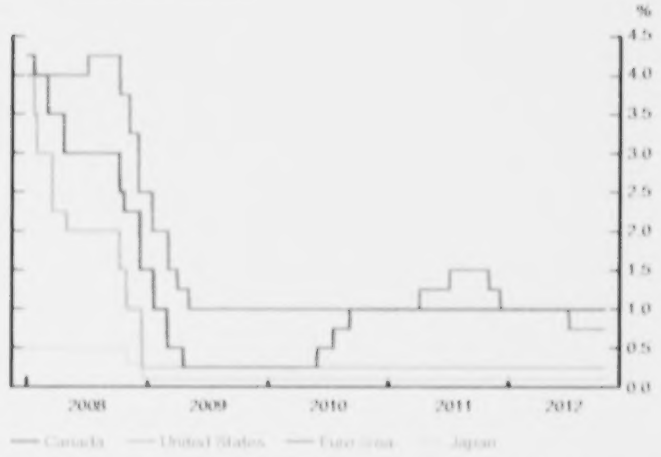
Source: Bank of Canada

Underlying global inflationary pressures are expected to ease over the projection horizon, given the considerable excess capacity observed in many advanced economies. The recent increase in energy and food prices will, however, provide a short-term offset, particularly in emerging-market economies (EMEs).

* *Underlying global inflationary pressures are expected to ease*

Chart 1: **Policy interest rates remain at historically low levels in advanced economies**

Policy interest rates, daily data



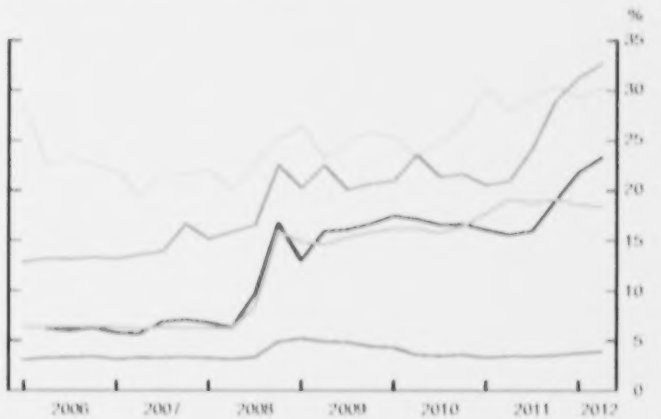
Note: On 5 October 2010, the Bank of Japan changed the target for its policy rate from 0.1 per cent to a range of 0.0 to 0.1 per cent. The U.S. Federal Reserve has been maintaining a target range for its policy rate of 0.0 to 0.25 per cent since 16 December 2008.

Sources: Bank of Canada, U.S. Federal Reserve, European Central Bank and Bank of Japan

Last observation: 10 October 2012

Chart 2: **Some central banks have expanded their balance sheets further**

Central bank assets relative to GDP, quarterly data



Sources: Bank of Canada, Statistics Canada, U.S. Federal Reserve, U.S. Bureau of Economic Analysis, European Central Bank, Statistical Office of the European Communities, Bank of England, U.K. Office for National Statistics, Bank of Japan and Cabinet Office of Japan

Last observation: 2012Q2

Global Financial Conditions

Global financial conditions have improved modestly since the last *Report*, supported by several significant central bank initiatives and reduced concerns about a serious near-term credit event. Tail risks in the euro area are perceived to have diminished significantly following the ECB's announcement of its Outright Monetary Transactions (OMT) program, while the announcement by the U.S. Federal Reserve of substantial additional monetary easing has provided further support for some risky assets (Box 1).[1]

- *Global financial conditions have improved modestly*
- *Tail risks in the euro area are perceived to have diminished*

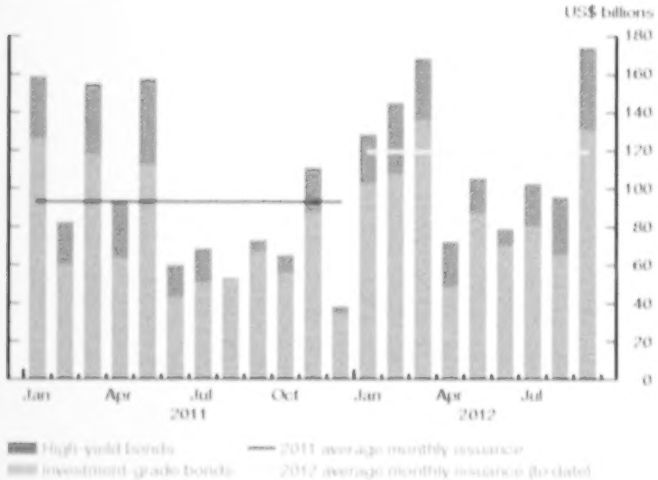
The more positive market tone has been reflected in narrower credit spreads, strong corporate issuance (Chart 3) and large gains in many equity markets. The extraordinary liquidity provided by central banks may also be pushing down measures of financial market volatility.

The OMT program, which allows the ECB to purchase government bonds in the secondary market, is designed to eliminate the risk of euro redenomination and improve the monetary policy transmission mechanism in the euro area.[2] This action, coupled with other encouraging policy developments in the euro area, has lowered the probability of a severe crisis and has led to a reversal of some safe-haven flows.[3] As a result, sovereign yields in several peripheral euro-area countries have declined substantially (Chart 4). Bond yields in peripheral euro-area countries nevertheless continue to be elevated, and significant financial market strains remain. Notably, there are signs of increasing fragmentation of European financial markets, with reduced cross-border financial activity and an evident home bias in investment portfolios.

- *Bond yields in peripheral euro-area countries nevertheless continue to be elevated*

Chart 3: **Activity in corporate credit markets is robust**

Global corporate issuance placed in U.S. dollars, monthly data



Note: Average values are calculated over the total yearly issuance of high-yield and investment-grade bonds.
Source: Bloomberg
Last observation: September 2012

1. The increase observed in risk appetite was also reinforced by the announcement of additional monetary accommodation by other central banks, including the Bank of Japan, which expanded the size of its Asset Purchase Program by about 10 trillion yen in mid-September.
2. The ECB has indicated that Outright Monetary Transactions will be considered only if they are warranted from a monetary policy perspective, and as long as the conditions established under the European Financial Stability Facility / European Stability Mechanism (ESM) program are fully respected.
3. This improvement in risk sentiment was further reinforced by other developments being interpreted as euro-area friendly, such as the Dutch elections and the decision of the German constitutional court that cleared the way for ratification of the ESM treaty, which was inaugurated in early October.

Box 1

The Implications of Recent U.S. Monetary Policy Developments

Following the 12–13 September meeting of the Federal Open Market Committee (FOMC), the U.S. Federal Reserve announced that it would purchase additional agency mortgage-backed securities at a pace of US$40 billion per month. The Committee also stated that it would continue its purchases of mortgage-backed securities and undertake additional asset purchases, as appropriate, until substantial improvement in the outlook for the labour market has been achieved. In addition, the Committee extended its forward guidance for exceptionally low levels of the federal funds rate through at least mid-2015, and added that it expects a highly accommodative stance of monetary policy to remain appropriate "for a considerable time after the economic recovery strengthens." Together, these actions have been dubbed "QE3."

These policy measures are more aggressive than previously anticipated, thereby contributing to stronger growth over the projection horizon. In particular, the Bank expects these measures to support U.S. economic activity by:

- lowering mortgage rates, which will encourage home purchases and refinancing;
- encouraging investors to rebalance their portfolios toward riskier higher-return assets, thus:
  - creating positive wealth effects through higher asset prices, which will support consumption;
  - stimulating consumption and investment by reducing the cost of borrowing; and
- exerting downward pressure on the foreign exchange value of the U.S. dollar, thereby stimulating U.S. exports and reducing imports.

There is uncertainty regarding the magnitude of the impact of QE3 on U.S. financial conditions and economic activity. Estimates of the impact of earlier rounds of "QE" span a fairly wide range. Moreover, it is difficult to apply the earlier estimates to QE3 because (i) the macroeconomic and financial environment has changed; and (ii) unlike previous rounds, the Federal Reserve did not announce a predetermined quantity or time horizon for purchases under QE3.

U.S. financial conditions have eased since the release of the minutes of the 31 July–1 August FOMC meeting, where the possibility of taking additional policy actions was widely discussed (**Table 1-A**). Corporate credit spreads and borrowing rates have declined, equity prices have risen, and the U.S. dollar has also weakened. Moreover, issuance of investment-grade and high-yield corporate debt has proceeded at a near-record pace. It must be noted, however, that since many factors affect financial markets simultaneously, it is difficult to isolate the impact of the additional easing.

The Bank estimates that QE3 will lift the level of U.S. GDP by 1.3 per cent by 2014 and, more broadly, boost global economic activity, increasing the demand for Canadian exports and supporting commodity prices. Lower yields for a variety of U.S. asset classes mean that similar Canadian financial assets will now offer relatively higher returns. As a consequence, some substitution into Canadian assets can be expected, which would lower Canadian yields and put upward pressure on the value of the Canadian dollar.

On balance, QE3 is estimated to be modestly positive for the Canadian economy, lifting the level of real GDP by about 0.4 per cent by 2014. However, the precise impact will depend importantly on the extent to which the various channels of influence operate.

Table 1-A: **U.S. financial conditions have become more supportive**

Asset class	Current level[a]	Since FOMC meeting (13 September)	Since FOMC minutes (22 August)[b]
30-year mortgage rate	3.37	-18 bps	-29 bps
S&P 500 Index	1433.19	-1.83%	+1.39%
10-year U.S. Treasury yield	1.76%	+4 bps	+7 bps
U.S. investment-grade corporate bond spread	176 bps	-29 bps	-37 bps
U.S.-dollar trade-weighted index	79.62	-0.45%	-2.29%

a. As of the close on 19 October 2012 or latest available data
b. Minutes of the August FOMC meeting where the possibility of additional quantitative easing was widely discussed and considered

Short-term yields in some core European countries are near zero, signalling that investors are still wary and are willing to pay a premium to protect their investments (**Chart 5**). In addition, the most recent bank lending survey in the euro area suggests that, in the second quarter, banks continued to tighten credit standards on loans to enterprises and that they expected to tighten standards further in the third quarter for all categories of loans.

Chart 4: **Yields in several peripheral euro-area economies have declined substantially**

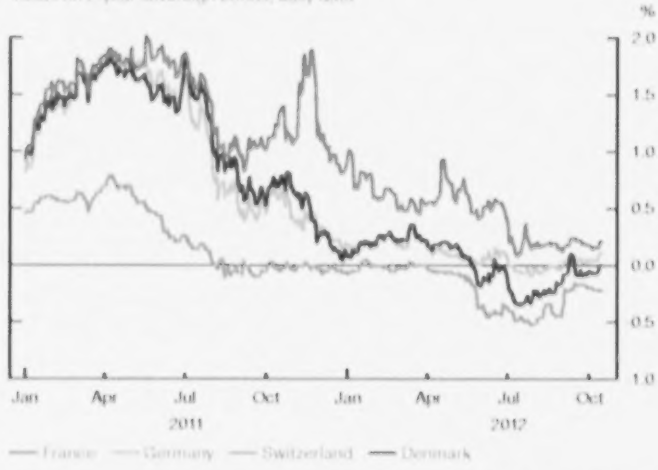
Yields on 10-year sovereign bonds, daily data

Source: Bloomberg

Last observation: 19 October 2012

Chart 5: **Short-term bond yields in some core European countries remain near historical lows**

Yields on 2-year sovereign bonds, daily data



Source: Bloomberg

Last observation: 19 October 2012

In the United States, the Federal Reserve has extended its forward guidance for exceptionally low levels for the federal funds rate through to at least mid-2015. Moreover, in addition to completing the maturity extension program, the Federal Reserve will provide further policy accommodation by purchasing additional agency mortgage-backed securities (MBS) at a pace of US$40 billion per month. The Fed has indicated that it will continue this MBS purchase program (or undertake additional asset purchases) until there is a substantial improvement in the outlook for the U.S. labour market in a context of price stability (**Box 1**).

U.S. credit spreads have continued to narrow recently, with the yields on both investment-grade and high-yield corporate bonds declining to near-record levels, supported by robust investor demand. Spreads in the MBS market have also tightened substantially following the Federal Reserve announcement.

◂ *U.S. credit spreads have continued to narrow*

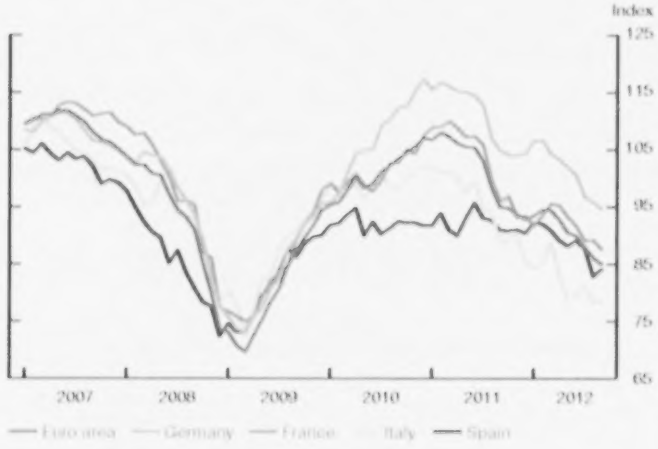
Euro Area

The euro area is in recession. GDP contracted by 0.7 per cent in the second quarter of 2012, a slightly smaller decline than anticipated in the July *Report*. However, economic indicators suggest that the strained economic situation in peripheral economies continues to spread to the core countries. The euro-area composite Economic Sentiment Indicator (ESI) and the composite Purchasing Managers' Indexes both fell to near 3-year lows, and the ESIs for France and Germany have continued to slide (Chart 6).

* *The euro area is in recession*

Chart 6: **Severe weakness in peripheral euro-area economies has continued to spread to the core countries**

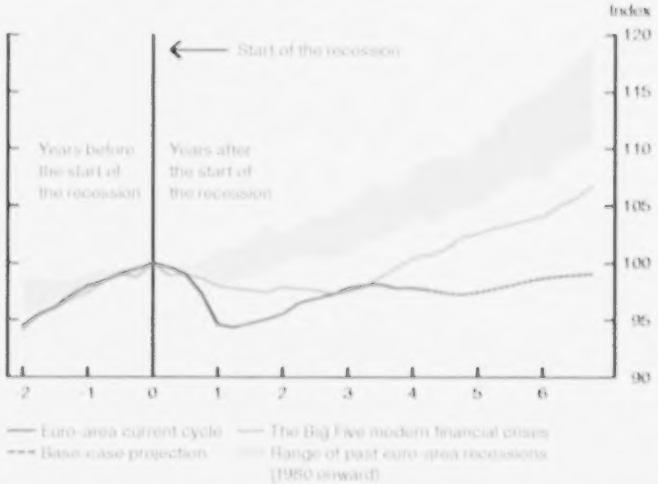
Economic Sentiment Indicator, monthly data



Source: European Commission — Last observation: September 2012

Chart 7: **Europe is stagnating**

Euro-area real GDP across economic cycles; start of recession = 100, quarterly data



Note: The Big Five modern financial crises, as described in Reinhart and Rogoff (2008), are Spain (1977), Norway (1987), Finland (1991), Sweden (1991) and Japan (1992). See C.M. Reinhart and K.S. Rogoff, "Is the 2007 U.S. Sub-Prime Financial Crisis So Different? An International Historical Comparison," *American Economic Review: Papers and Proceedings* 98, no. 2 (2008): 339–44.

Sources: Eurostat, Organisation for Economic Co-operation and Development, and Bank of Canada projections

Euro-area activity is projected to contract further in the second half of 2012, and GDP is expected to decline by 0.5 per cent for the year as a whole. With ongoing bank deleveraging, fiscal austerity measures, tensions in financial markets and low confidence continuing to weigh on the outlook for the euro area, the Bank expects very modest growth of 0.4 and 1.0 per cent in 2013 and 2014, respectively. Domestic demand in the euro area is anticipated to remain extremely weak, with some offsetting support for economic activity provided by export growth. However, the level of euro-area GDP is projected to stay below its 2008 peak throughout the 2012–14 period (**Chart 7**).

Domestic demand in the euro area is anticipated to remain extremely weak

Headline inflation in the euro area remained at 2.6 per cent in September, supported by increases in indirect taxes and administered prices in peripheral countries, as well as the recent run-up in energy prices. Inflation is expected to remain above 2 per cent throughout 2012 and to decline gradually to below 2 per cent over the projection horizon.

While the introduction of the OMT by the ECB provides time for reforms to be implemented, further substantive measures will be needed to continue to contain the crisis and put euro-area economies on a sustainable path. Fiscal and structural policy adjustments will take several more years to complete, and market confidence will be restored only gradually.

Further substantive measures will be needed to continue to contain the crisis

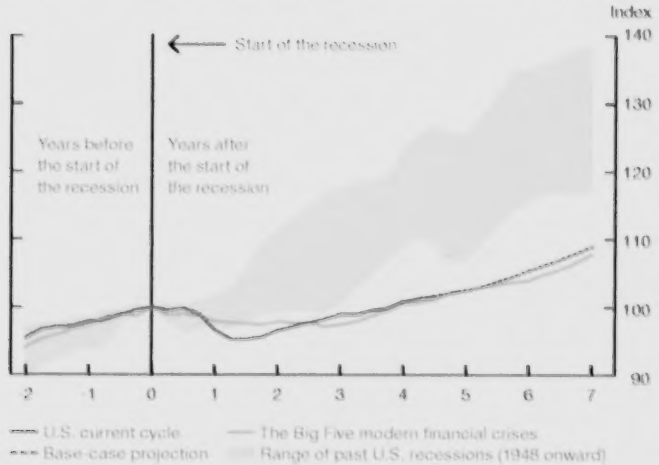
United States

The U.S. economic expansion is continuing at a gradual pace, consistent with the experience of other advanced countries that have undergone severe financial crises (**Chart 8**). GDP growth in 2012 is projected to be slightly higher than previously anticipated, owing to historical revisions for late 2011 that affect annual average growth for 2012 and more than offset the negative effects of the severe drought on farm output. Fiscal consolidation, weak external demand and ongoing household deleveraging will

The U.S. economic expansion is continuing at a gradual pace

Chart 8: **U.S. real GDP growth is projected to remain relatively modest compared with previous U.S. recoveries**

U.S. real GDP across economic cycles; start of recession = 100, quarterly data

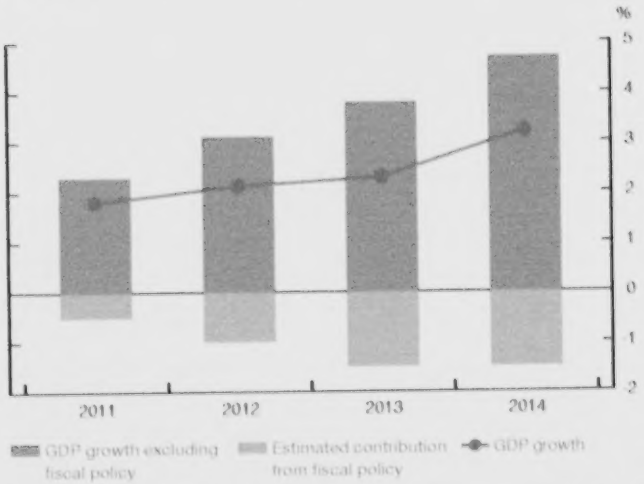


Note: The Big Five modern financial crises, as described in Reinhart and Rogoff (2008), are Spain (1977), Norway (1987), Finland (1991), Sweden (1991) and Japan (1992). See C.M. Reinhart and K.S. Rogoff, "Is the 2007 U.S. Sub-Prime Financial Crisis So Different? An International Historical Comparison," *American Economic Review: Papers and Proceedings* 98, no. 2 (2008): 339–44.

Sources: U.S. Bureau of Economic Analysis, Organisation for Economic Co-operation and Development, and Bank of Canada projections

Chart 9: **Fiscal consolidation is projected to have a significant dampening effect on U.S. economic growth through 2014**

Annual data



Note: The contribution of fiscal policy to growth includes both direct government expenditures and the indirect effects on other components of aggregate demand.

Sources: U.S. Bureau of Economic Analysis and Bank of Canada calculations and projections

nevertheless continue to restrain growth. In 2013, growth is projected to accelerate, supported by a pickup in external demand, a gradual improvement in labour market conditions and the recent announcement of additional policy easing by the Federal Reserve.

U.S. GDP growth has been revised up in 2013 and 2014, owing to a larger policy response by the Federal Reserve

Relative to the July *Report*, U.S. GDP growth in 2013 and 2014 has been revised up to 2.3 per cent and 3.2 per cent, respectively, owing to a larger policy response by the Federal Reserve than was previously expected. These policy measures will support stronger growth over the projection horizon by lowering the cost of credit to consumers and businesses, boosting asset prices and wealth, and putting downward pressure on the U.S. dollar (**Box 1**), thus contributing to higher growth in consumption and both residential and non-residential investment than had been anticipated in July.

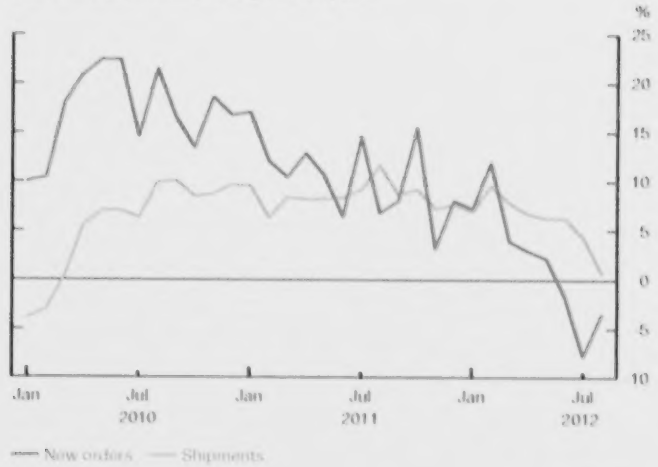
There are signs that the uncertainty around the fiscal outlook has already begun to affect U.S. economic activity

The Bank's base-case scenario assumes that the drag from fiscal consolidation will amount to roughly 1 percentage point in 2012 and 1.5 percentage points in both 2013 and 2014 (**Chart 9**). However, a severe tightening of fiscal policy at the beginning of 2013 is built into current legislation, which, if fully implemented, could reduce U.S. real GDP growth next year by approximately 4 percentage points. The outlook is therefore highly uncertain and is contingent on political willingness to address the impending fiscal cliff. There are signs that the uncertainty around the fiscal outlook, coupled with the fragile state of the European economy and other worrying external developments, has already begun to affect U.S. economic activity, with firms deciding to delay spending on some investment projects (**Chart 10**).

Consumption expenditures are expected to grow at a relatively slow but steady pace over the projection horizon. Weak labour market conditions continue to restrain household income, with the level of employment still 4.5 million below its previous peak (**Chart 11**). While the unemployment rate has declined in recent months, partly reflecting a further drop in labour force participation, it remains elevated. On the positive side, household net worth

Chart 10: **Indicators of U.S. business investment have weakened**

New orders and shipments of non-defence capital goods, excluding aircraft, year-over-year percentage change, monthly data

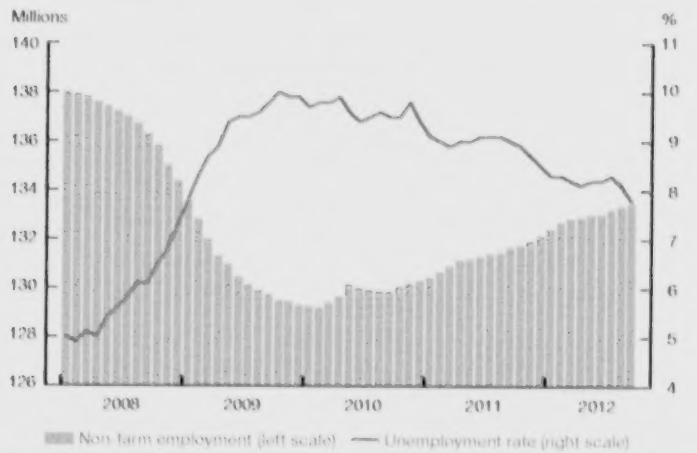


Source: U.S. Census Bureau

Last observation: August 2012

Chart 11: **U.S. labour market conditions remain weak**

Monthly data



Source: U.S. Bureau of Labor Statistics

Last observation: September 2012

is gradually being rebuilt, supported by gains in both equity and house prices. In addition, the household debt-to-income ratio has returned to 2005 levels and the debt-service ratio has reached multi-year lows.

Residential investment has rebounded in recent quarters, albeit from a very depressed level. Although home-builder sentiment has improved significantly and the number of building permits has climbed above 800,000 for the first time since 2008 (**Chart 12**), housing demand remains subdued. The significant overhang of unoccupied dwellings, as well as homes in the foreclosure pipeline, continues to restrain new construction and limit upward pressure on prices. The Bank expects that a gradual easing in lending conditions, improving labour market conditions and underlying demographic demand will support the recovery in residential construction over the projection horizon. The announcement by the U.S. Federal Reserve that it will purchase mortgage-backed securities will also help in this regard.

◂ *Residential investment has rebounded in recent quarters, albeit from a very depressed level*

Chart 12: **U.S. residential investment is gradually improving**

Monthly data

Note: The Housing Market Index (HMI) is based on a monthly survey of members of the National Association of Home Builders and is designed to take the pulse of the single-family housing market.

Sources: U.S. Census Bureau and National Association of Home Builders

Last observations: September and October 2012

The recovery in non-residential construction is expected to proceed at a modest pace, restrained by elevated vacancy rates and tight borrowing conditions. Growth in investment in equipment and software decelerated markedly in the first two quarters of 2012 and is projected to remain relatively weak in the short term, constrained in part by the uncertainty associated with the global economic outlook and the impending fiscal cliff. As these negative effects gradually dissipate and GDP growth picks up, growth in business investment is expected to rebound, supported by healthy corporate balance sheets. This rebound is slightly stronger than forecast in the July *Report*, owing to the additional monetary stimulus.

Growth in investment in equipment and software is projected to remain relatively weak in the short term before picking up

U.S. export growth in 2012 has been affected by slowing external demand and the past appreciation of the U.S. real effective exchange rate, but is projected to strengthen gradually starting in the second half of 2013 as global demand growth begins to recover.

Excess supply in the U.S. economy is expected to remain significant until well beyond 2014, dampening underlying inflationary pressures. Consumer price inflation will increase in the short term, however, reflecting the rapid increase in gasoline prices in recent months and the impact of the rise in food prices associated with the drought that affected vast areas of U.S. farmland. The additional policy easing by the Federal Reserve will also provide somewhat more support to inflation than previously anticipated.

Excess supply in the U.S. economy is expected to remain significant until well beyond 2014

Japan

Real GDP growth in Japan decelerated to 0.7 per cent in the second quarter of 2012 from 5.3 per cent in the first quarter. The sharp slowdown was in line with expectations at the time of the July *Report* and reflected a broad-based slowdown in domestic demand, as well as continued weakness in external demand,

especially from Europe and China. The contribution from public investment was also lower in the second quarter; growth in this sector remained strong, however, owing to reconstruction efforts following the natural disasters of March 2011. Consumer price inflation in Japan remains slightly below zero.

Japan's real GDP growth is projected to average only about 1 per cent in 2013 and 2014. A strong yen, together with weak growth in foreign demand, is anticipated to weigh on the pace of economic activity in the short term, while a planned increase in the value-added tax on consumption and declining reconstruction-related spending are expected to dampen growth toward the end of the projection horizon.[4]

Japan's real GDP growth is projected to average only about 1 per cent in 2013 and 2014

Emerging-Market Economies

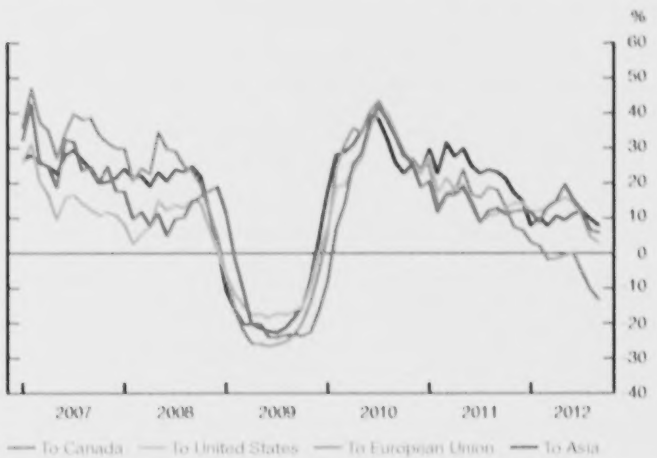
Real GDP growth in China slowed further in the third quarter of 2012 to 7.4 per cent on a year-over-year basis. The ongoing slowdown, also reflected in weak industrial production data, is the result of continuing efforts by Chinese authorities to rein in an overheated property market, as well as reduced external demand, particularly from Europe (**Chart 13**).

China's economy is expected to grow at a pace of about 7.7 per cent over the projection horizon. This represents a slight pickup from the recent rate of growth, but is a somewhat weaker forecast than in the July *Report*. Government spending on infrastructure should provide some support to growth over the projection period, but likely to a more limited extent than the stimulus measures introduced during the previous slowdown. Near-term growth in exports is expected to be dampened by weak activity in a number of advanced economies before picking up in mid-2013. Some additional slowing in housing is anticipated, although there is evidence that the housing market has recently stabilized, following a significant deceleration in activity.

China's economy is expected to grow at a pace of about 7.7 per cent, a slight pickup from the recent rate of growth

Chart 13: Demand for Chinese exports has been weakening

Year-over-year growth rate of 3-month moving average of Chinese exports, monthly data



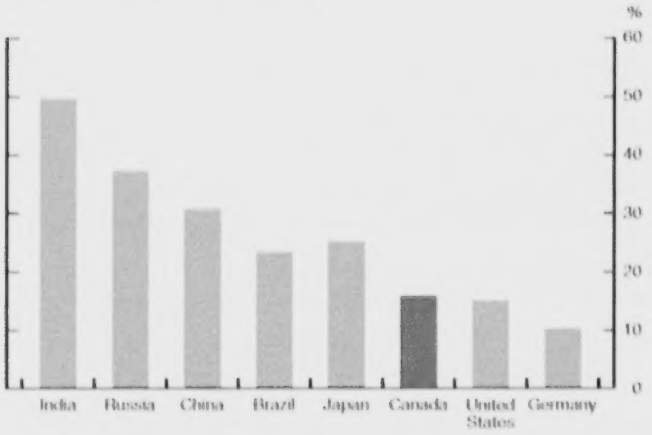
Source: China, General Administration of Customs

Last observation: September 2012

4 In April 2014, Japan's value-added tax on consumption will increase to 8 per cent from 5 per cent, and then rise to 10 per cent in October 2015.

Chart 14: **Food accounts for a greater share of the CPI basket in emerging-market economies**

Share of food in CPI basket, monthly data



Sources: Haver Analytics and Bank of Canada calculations Last observation: August 2012

Inflationary pressures in China appear well contained, with consumer price inflation at only 1.9 per cent in September compared with 6.1 per cent a year ago. However, since food represents a large portion of household expenditures, rising world food prices caused by severe droughts in a number of major food-producing countries are expected to exert significant upward pressure on China's inflation in coming quarters (Chart 14). Although the People's Bank of China eased monetary policy earlier this year, higher inflation due to rising food prices may limit the scope for further easing. Significant monetary policy easing may also be constrained by the fear of exacerbating existing domestic imbalances, particularly in the housing sector.

Economic activity in several other large EMEs is also slowing

Economic activity in several other large EMEs is also slowing in response to both external and domestic factors. After registering the lowest GDP growth since the financial crisis, activity in India appears to be weakening further, reflecting softer private consumption and investment. Recent indicators also suggest that GDP growth in Brazil will remain subdued in the second half of 2012. Owing to reduced near-term inflationary pressures, many EMEs have lowered their policy interest rates. As in China, however, further easing could be tempered by expected increases in food prices and still-elevated credit growth. Economic growth in the other large EMEs is expected to pick up gradually in the second half of 2013 as a result of the recent policy easing and somewhat stronger export markets.

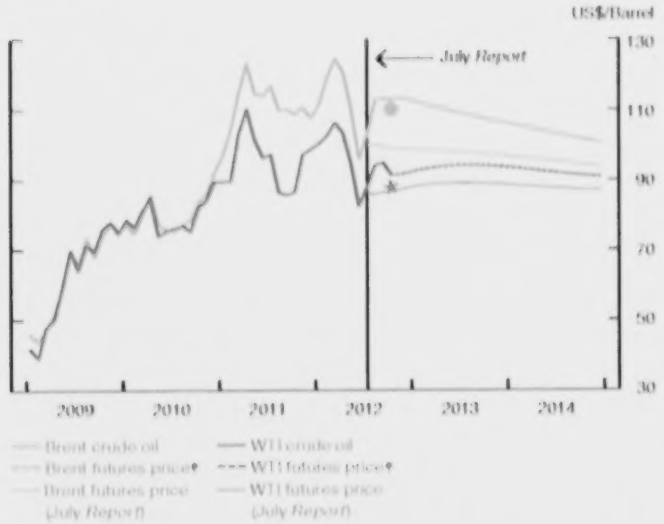
Commodity Prices

Prices for many commodities have increased

Prices for many commodities have increased since the July *Report*. A rise in crude oil prices and a rebound in base metal prices, both partly related to the announcement of new policy stimulus measures in several countries, account for much of the recent movement. Oil prices measured by the Brent crude benchmark are about 23 per cent higher than the trough reached at the end of June, boosted by temporary supply disruptions in the North Sea and tensions in the Middle East. In contrast, while higher relative to their July level, crude oil prices captured by the West Texas Intermediate (WTI) benchmark have fallen in recent weeks, reflecting strong supply conditions in North

Chart 15: **Prices for crude oil have risen since the July *Report* and are expected to remain elevated over the projection horizon**

Monthly data



* Spot price for WTI crude oil (19 October 2012)
◆ Front-month futures price for Brent crude oil (19 October 2012)
• Based on an average of futures contracts over the two weeks ending 19 October 2012

Note: Values for WTI crude oil prices in October 2012 are estimates based on the average daily spot prices up to 19 October 2012. Values for Brent crude oil prices in October 2012 are estimates based on the average front-month futures prices up to 19 October 2012.

Source: Bank of Canada

America. The latest futures curves suggest that the spread between Brent crude oil prices and WTI prices will gradually narrow over the projection horizon, owing to some normalization of supply conditions (**Chart 15**). Relative to the July *Report*, futures curves also indicate that Brent and WTI oil prices will be about 10 per cent and 5 per cent higher, respectively, through 2014.

Oil prices measured by the Brent crude benchmark are about 23 per cent higher than the trough reached at the end of June

Natural gas prices in North America have also risen since the July *Report* but, at a little above US$3 per million Btu, are still low as new fracking technologies continue to drive an expansion of supply. Based on the latest futures curve, natural gas prices are projected to continue to rise through 2014, similar to expectations in July.

Prices for non-energy commodities are also higher, on average, than in July, and are projected to stay above the levels anticipated at the time of the last *Report* through 2014, although substantial variation has been observed across some commodity groups over the past few months. Base metal prices have increased sharply since mid-August, offsetting part of the significant decline in prices observed earlier in the year. These prices are expected to continue increasing, albeit at a slower pace, over the projection horizon. Prices for agricultural products have broadly stabilized since the July *Report* after a drought-related spike. While agricultural prices are expected to remain elevated through mid-2013, they are projected to decline thereafter as supply conditions improve. Prices for forestry products, after rising through August, have returned to the levels observed at the time of the July *Report*. Over the next two years, the prices of forestry products are expected to improve gradually, supported by the recovery of the U.S. housing sector.

Base metal prices have increased sharply since mid-August

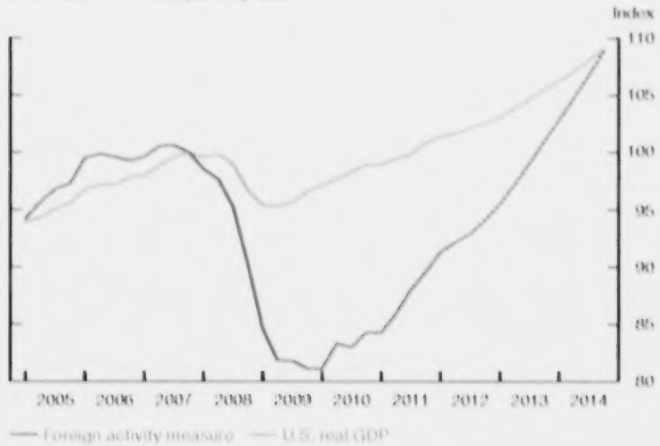
Implications for the Canadian Economy

External demand for Canada's exports, as estimated by the Bank's foreign activity measure, remains modest.[5] The measure has recovered only 60 per cent of the decline recorded during the 2008–09 recession, owing largely to protracted weakness in the U.S. housing sector. Despite the relatively subdued outlook for global economic growth, the foreign activity measure is projected to grow steadily over the next two years, reflecting a gradual recovery in the U.S. housing market and an anticipated increase in the growth of U.S. business investment once the uncertainty related to the fiscal cliff and the situation in Europe dissipates (Chart 16). Owing to the

- *External demand for Canada's exports remains modest*
- *The foreign activity measure is expected to surpass its pre-recession level during the second half of 2013*

Chart 16: **The foreign activity measure is expected to grow at a stronger pace than U.S. real GDP**

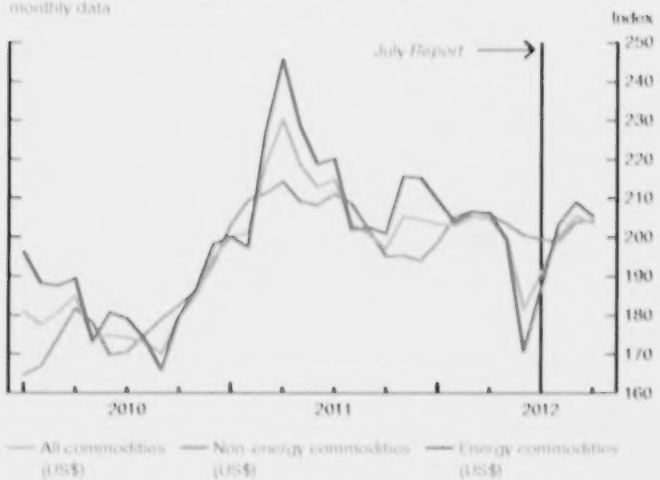
Index: 2007Q4 = 100, quarterly data



Sources: U.S. Bureau of Economic Analysis and Bank of Canada calculations and projections

Chart 17: **Commodity prices have increased since the July *Report***

Bank of Canada commodity price index (rebased to January 2003 = 100), monthly data



Note: Values for October 2012 are estimates based on the average daily spot prices up to 19 October 2012.
Source: Bank of Canada
Last observation: 19 October 2012

5 The foreign activity measure captures the composition of foreign demand for Canadian exports by weighting the various components of U.S. private final domestic demand and economic activity in other countries according to their importance for Canada's trade.

annual revisions to U.S. data, the level of the foreign activity measure is slightly lower than previously expected in the second quarter of 2012. However, upward revisions to the Bank's outlook for the U.S. economy imply stronger growth in the foreign activity measure over the projection horizon. The foreign activity measure is expected to surpass its pre-recession level during the second half of 2013.

The Bank of Canada's commodity price index (BCPI) has increased by approximately 6 per cent since July, contributing to an improvement in Canada's terms of trade (**Chart 17**). Prices received by Canadian producers of heavy crude oil, Western Canada Select (WCS), are up 13 per cent, owing in part to the resolution of pipeline and refinery outages that had previously weighed on prices. As a result, the spread between WCS and WTI has narrowed significantly. The BCPI is anticipated to remain relatively stable. A projected rise in natural gas prices and the continued recovery in base metal prices are expected to be offset by a gradual decrease in crude oil prices and some easing in agricultural prices.

The Bank's commodity price index has increased by approximately 6 per cent since July

Canadian Dollar

The Canadian dollar has averaged 101 cents U.S. since the July *Report*, higher than the 98 cents U.S. assumed in July (**Chart 18**), and is assumed to average 101 cents U.S. over the projection horizon.

The Canadian dollar is assumed to average 101 cents U.S.

Chart 18: The Canadian dollar has appreciated

Daily data

Note: A rise in either series indicates an appreciation of the Canadian dollar.

Source: Bank of Canada

Last observation: 19 October 2012

Canadian Economy

While global headwinds continue to restrain Canadian economic activity, domestic factors are supporting a moderate expansion. Following the recent period of below-potential growth, the Bank expects the economy to pick up in coming quarters, returning to full capacity by the end of 2013. The Bank continues to anticipate that the expansion will be driven mainly by growth in consumption and business investment, reflecting very stimulative domestic financial conditions. Housing activity is expected to decline from historically high levels, and household debt ratios are expected to rise further before stabilizing by the end of the projection horizon. Canadian exports are projected to pick up gradually but remain below their pre-recession peak until the first half of 2014, reflecting the weak level of foreign demand and ongoing competitiveness challenges. These challenges include the persistent strength of the Canadian dollar, which is being influenced by safe-haven flows and spillovers from global monetary policy.

Following the recent period of below-potential growth, the Bank expects the economy to pick up

Core inflation has been lower than expected in recent months, reflecting somewhat softer prices across a wide range of goods and services. Core inflation is expected to increase gradually over coming quarters, reaching 2 per cent by the middle of 2013 as the current small degree of slack in the economy is gradually absorbed, the growth of labour compensation stays moderate and inflation expectations remain well anchored. Total CPI inflation has fallen noticeably below the 2 per cent target, as expected, and is projected to return to target by the end of 2013, somewhat later than previously anticipated.

Core inflation has been lower than expected, and total CPI inflation has fallen noticeably below the 2 per cent target, as the Bank had anticipated

Financial Conditions

In a context of somewhat improved global financial conditions, the supply and price of credit for businesses and households in Canada remain very stimulative (**Chart 19**), providing important ongoing support to the economic expansion.

Canadian financial markets have benefited from the modest reduction in global risk aversion in recent months. The S&P/TSX Composite Index has risen by roughly 8 per cent since the *July Report*, and volatility has diminished (**Chart 20**). Credit spreads on Canadian corporate bonds have continued to narrow, more than offsetting the slight increase in Canadian government bond yields. As a result, all-in corporate bond yields have fallen to record lows, and the volume of corporate bond issuance has remained robust.

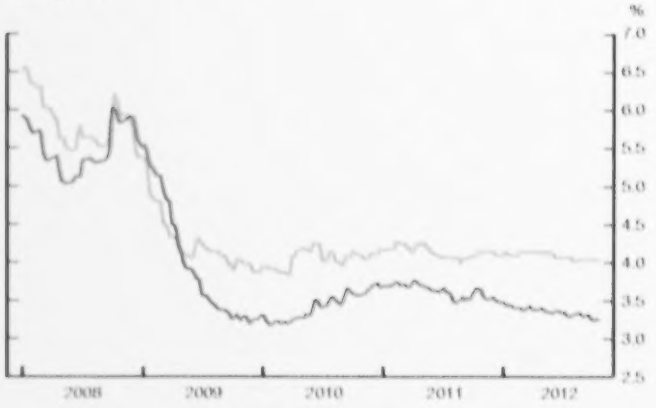
Canadian financial markets have benefited from the modest reduction in global risk aversion

Canadian banks continue to be well positioned to lend, with ready access to low-cost funding across the term structure in both Canadian and foreign currencies, on both a relative and absolute basis. Responses to the Bank's latest *Senior Loan Officer Survey* (available on the Bank's website under

Surveys suggest some further easing in business lending conditions in recent months

Chart 19: **Borrowing costs for businesses and households remain at exceptionally low levels**

Weekly data

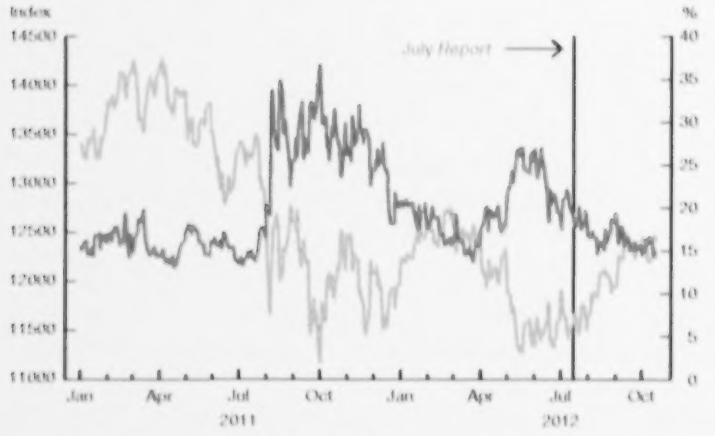


Note: For more information on these series, see <http://cansim2.bankofcanada.ca/financialconditions>.
Source: Bank of Canada calculations

Last observation: 19 October 2012

Chart 20: **Volatility has declined, while equity prices have increased**

Daily data



Note: The S&P/TSX 60 Index covers approximately 73 per cent of Canada's equity market capitalization. The S&P/TSX 60 VIX is a measure of the 30-day implied volatility obtained from options contracts on the S&P/TSX 60 Index.

Source: Bloomberg

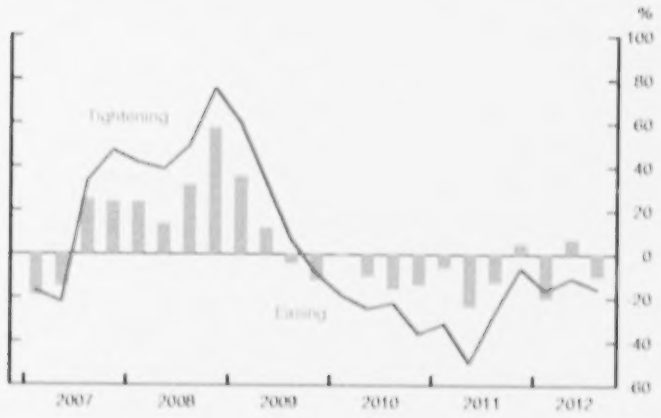
Last observation: 19 October 2012

Publications and Research > Periodicals > SLOS 2012Q3) and the balance of opinion of Canadian firms surveyed in the Bank's autumn *Business Outlook Survey* (available on the Bank's website under Publications and Research > Periodicals > BOS Autumn 2012) both suggest some further easing in business lending conditions in recent months, extending a period of almost uninterrupted easing since late 2009 (**Chart 21**).

With financing conditions for Canadian firms remaining highly favourable, overall business credit has expanded in recent months at a rate above its historical average (**Chart 22**). However, the demand for credit stemming from the solid growth in business investment continues to be tempered by the historically high cash position of non-financial firms.

Chart 21: **Credit conditions for Canadian firms have eased further**

Balance of opinion



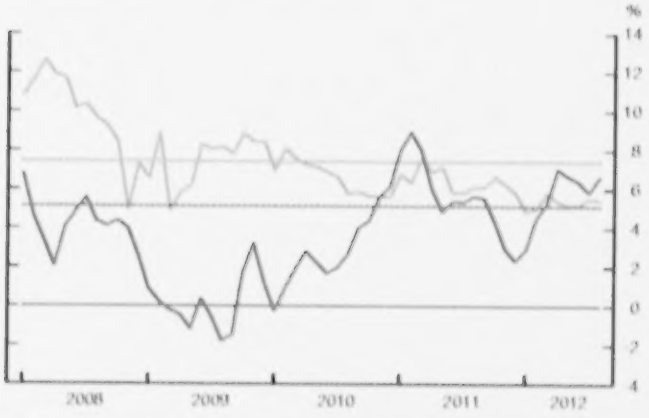
— Overall business-lending conditions from the *Senior Loan Officer Survey*[a]
▬ Overall credit conditions from the *Business Outlook Survey*[b]

a. Weighted percentage of surveyed financial institutions reporting tightened credit conditions minus the weighted percentage reporting eased credit conditions
b. Percentage of firms reporting tightened credit conditions minus the percentage reporting eased credit conditions

Source: Bank of Canada — Last observation: 2012Q3

Chart 22: **The growth of business credit has stayed robust, while household credit growth has remained relatively moderate**

3-month percentage change (at annual rates)



— Total business credit
- - - Historical average of business credit growth from 1982 to present
— Total household credit
- - - Historical average of household credit growth from 1982 to present

Source: Bank of Canada — Last observation: August 2012

Household credit continues to be readily available at near-record low rates. Growth in household credit has remained relatively stable at around 5.5 per cent since the beginning of the year, a pace below the historical average (Chart 22), following an extended period of rapid growth that led to a substantial buildup in household debt. Regulatory measures implemented in recent months are expected to moderate the growth of

◂ *The household debt-to-income ratio is expected to continue to rise before stabilizing by the end of the projection horizon*

household credit somewhat. Nevertheless, the household debt-to-income ratio is expected to continue to rise before stabilizing by the end of the projection horizon.[6]

While growth in the narrow monetary aggregates remains moderate compared with the unusually rapid pace observed in late 2011, it has edged up in recent months, suggesting a slightly greater degree of liquidity preference, particularly among companies. Growth in the broad monetary aggregates has also picked up from earlier in the year, although it continues to be consistent with relatively subdued inflationary pressures ahead.

Potential Output Growth

The Bank's projection for the growth of potential output in Canada over the 2012–14 period is unchanged from the projection in the October 2011 *Report* (Box 2). Potential output growth is expected to increase from 2.0 per cent in 2012 to 2.2 per cent in 2014. The projection horizon has now been extended to 2015, when the growth of potential output is expected to be 2.1 per cent. As a result of the recovery in investment spending, as well as efficiency gains, trend productivity is projected to improve as Canadian firms strive to adopt best practices in the face of competitive pressures. At the same time, demographic forces will continue to reduce the trend rate of labour input growth.

- *Potential output growth is expected to increase from 2.0 per cent in 2012 to 2.2 per cent in 2014*

6 On 9 July 2012, four measures for new government-backed insured mortgages with loan-to-value ratios of more than 80 per cent were implemented. These measures: (i) reduced the maximum amortization period to 25 years from 30 years; (ii) lowered the maximum amount Canadians can borrow when refinancing to 80 per cent from 85 per cent of the value of their homes; (iii) fixed the maximum gross debt-service ratio at 39 per cent and the maximum total debt-service ratio at 44 per cent; and (iv) limited the availability of government-backed insured mortgages to homes with a purchase price of less than $1 million. Moreover, the Office of the Superintendent of Financial Institutions also announced new guidelines for residential mortgage underwriting effective at the end of October 2012.

Box 2

Revisions to Potential Output Growth

Every October, the Bank reassesses the path for potential output growth underpinning its economic outlook. Potential output represents the level of goods and services that the economy can produce on a sustained basis without adding to inflationary pressures. Potential output growth can be thought of as the sum of the growth rates of trend labour input and trend labour productivity.

The growth rate of potential output is expected to increase gradually from 2.0 per cent in 2012 to 2.2 per cent in 2014, reflecting higher trend productivity growth, before edging down to 2.1 per cent in 2015 (**Table 2-A**). The slowing in 2015 results from a further decline in the growth of trend labour input coupled with no change in the growth rate of trend labour productivity.

The projected improvement in the growth of trend labour productivity is supported by solid investment spending, aided by very low interest rates and the relatively low cost of imported investment goods associated with the strong Canadian dollar, as well as by international competitiveness pressures that encourage Canadian firms to adopt best practices. Growth in trend labour productivity is projected to rise from 1.2 per cent in 2012 to 1.5 per cent in 2014, and to remain at 1.5 per cent in 2015.

The growth rate of trend labour input over the projection horizon is expected to moderate from 0.8 per cent in 2012 to 0.6 per cent in 2015, driven by slower growth in the working-age population as well as a decline in the trend employment rate. Demographics are expected to have a continuing effect beyond 2015.

Table 2-A. **Assumptions for the growth of potential output**

	2012	2013	2014	2015
Potential output	2.0 (2.0)	2.1 (2.1)	2.2 (2.2)	2.1
Trend labour productivity	1.2 (1.1)	1.3 (1.3)	1.5 (1.5)	1.5
Trend labour input	0.8 (0.9)	0.8 (0.8)	0.7 (0.7)	0.6

Note: Figures in parentheses correspond to October 2011 estimates.

Estimated Pressures on Capacity

The Canadian economy continues to operate with a small amount of spare capacity. While real GDP growth of 1.9 per cent in the second quarter was broadly in line with the growth of potential output, as expected, historical revisions to the National Accounts suggest slightly less economic slack in Canada through 2011 and early 2012 than previously estimated (Box 3). However, real GDP growth is estimated to have been weaker than anticipated at around 1.0 per cent in the third quarter, partly reflecting the impact on Canadian exports of transitory disruptions in the energy sector. Consistent with these dynamics, the Bank's conventional measure of the output gap widened slightly to –0.7 per cent in the third quarter (Chart 23).

The Canadian economy continues to operate with a small amount of spare capacity

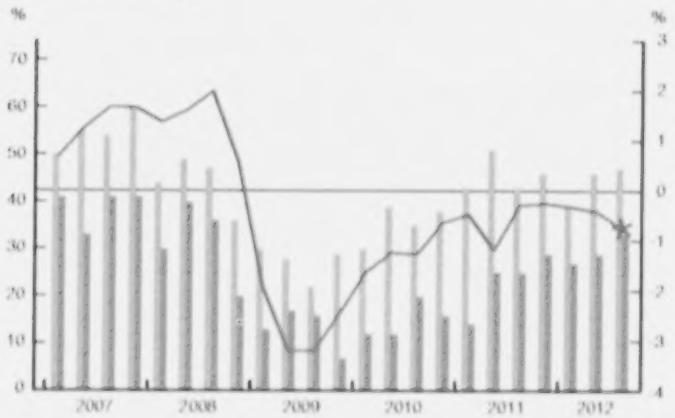
Real GDP growth is estimated to have been weaker than anticipated at around 1.0 per cent in the third quarter

Taken together, other indicators of pressures on capacity also point to the persistence of a small degree of slack in the Canadian economy. Responses to the Bank's *Business Outlook Survey* in recent quarters have shown that the proportion of firms that would have difficulty meeting an unexpected increase in demand has stayed close to its historical average, and while the proportion of firms reporting labour shortages has edged up, it is still slightly below its historical average. Despite solid gains in employment, the unemployment rate has been broadly steady over the past year, at a level consistent with a modest degree of slack in the economy (Chart 24). Moreover, both the duration of unemployment and the proportion of involuntary part-time workers continue to be elevated (Chart 25).

On balance, the Bank judges that the economy was operating at roughly two-thirds of a per cent below its production capacity in the third quarter of 2012, a slightly larger degree of slack than expected in July.

The Bank judges that the economy was operating at roughly two-thirds of a per cent below its production capacity in the third quarter of 2012

Chart 23: **The Canadian economy continues to operate with a small amount of excess supply**



a. Response to *Business Outlook Survey* question on capacity pressures. Percentage of firms indicating that they would have either some or significant difficulty meeting an unanticipated increase in demand/sales.
b. Response to *Business Outlook Survey* question on labour shortages. Percentage of firms reporting labour shortages that restrict their ability to meet demand.
c. Difference between actual output and estimated potential output from the Bank of Canada's conventional measure. The estimate for the third quarter of 2012 (indicated by *) is based on a projected increase in output of 1.0 per cent (at annual rates) for the quarter.

Source: Bank of Canada

Last observation: 2012Q3

Box 3

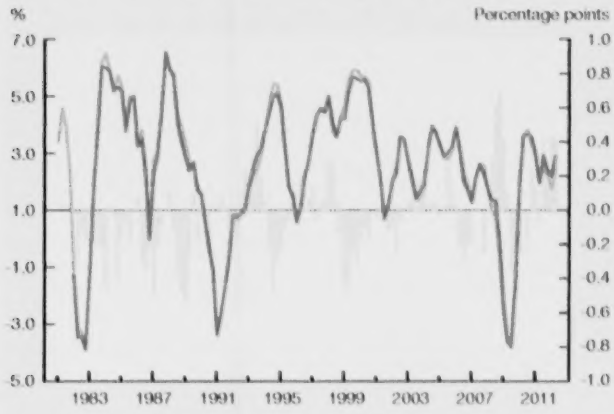
Historical Revisions to the Canadian System of National Accounts

In October 2012, Statistics Canada published revised estimates for Canada's System of National Accounts.[1] The new data reflect the implementation of revised international accounting standards, including classification changes, as well as new and improved source data and methodologies. The nature of the revisions is such that new and old data are sometimes not directly comparable. Three revisions in particular bear mentioning:

- Spending on research and development is now capitalized, resulting in an upward revision to the level of both business and government investment over history, by an average of 5 per cent and 9 per cent, respectively. While this contributes to an upward revision to the average *level* of overall real GDP of 3 per cent since 1981, there is no significant change in the profile of real GDP *growth* (**Chart 3-A**). The revisions do not alter the depth or length of the recent recession, and leave the broad profile of the Bank's conventional estimate of the output gap roughly unchanged. Revisions to real GDP in recent quarters, largely owing to improved source data, suggest a slightly faster pace of growth since the beginning of 2011, resulting in a marginally smaller output gap in the second quarter of 2012 than previously estimated.
- The new System of National Accounts redefines institutional sectors; in particular, households, non-profit institutions and Aboriginal governments are now separated out. The revised definition of the household sector contributes to a lower estimated level of disposable income.[2] In addition, the estimated level of debt held by households has been revised, owing primarily to changes in methodology and a new approach to allocating loans across sectors. As a result, household debt relative to disposable income under the new definition is higher in recent years, and shows a faster pace of increase (**Chart 3-B**).[3] Household net worth relative to disposable income has also been revised higher under the new definition, and is now estimated to have rebounded more strongly coming out of the recession, partly reflecting more extensive marking-to-market of asset values (**Chart 3-C**).[4] Finally, the household savings rate has been revised downward over most of its history, although it has been adjusted somewhat higher in recent years (**Chart 3-D**). At the margin, these revisions imply a more vulnerable household sector than previously thought.

Chart 3-A: **Historical revisions do not significantly change the profile of real GDP growth**

Year-over-year percentage change in real GDP; quarterly data

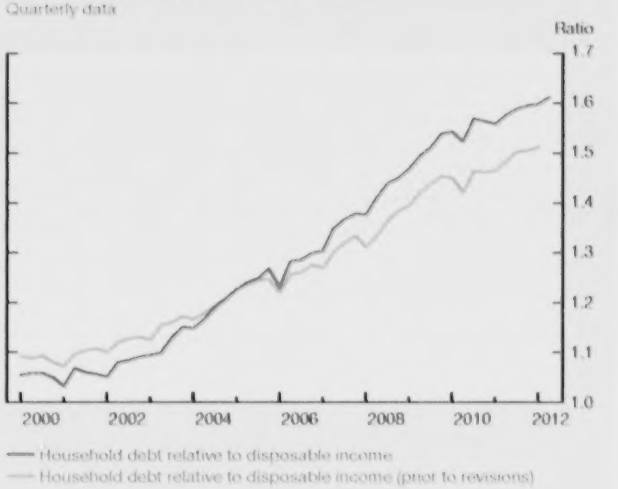


Sources: Statistics Canada and Bank of Canada calculations

Last observation: 2012Q2

Chart 3-B: **Household debt relative to disposable income now shows a faster pace of increase**

Quarterly data



Sources: Statistics Canada and Bank of Canada calculations

Last observations: 2012Q1 and 2012Q2

1 Revisions to the National Accounts cover the period from 1981Q1 to 2012Q2, while revisions to the National Balance Sheet Accounts cover the period from 1990Q1 to 2012Q2.

2 Household disposable income is also lower because it now excludes interest on household debt payable.

3 The revisions to income account for most of the change to the level of this ratio, while the faster growth of the ratio owes mainly to the revisions to debt.

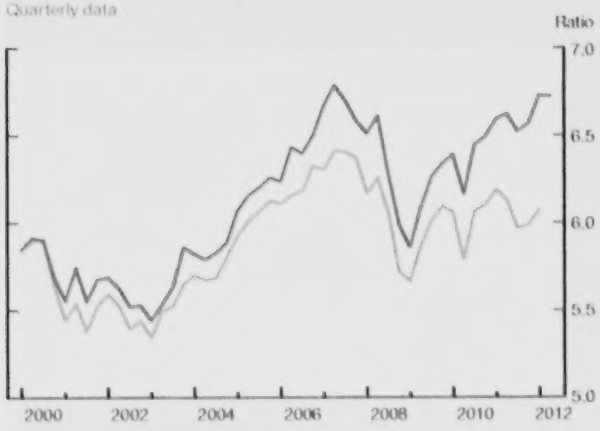
4 For instance, valuation of unlisted shares at market value rather than at book value added approximately $108 billion to household net worth in 2011.

(continued...)

Box 3 (*continued*)

Chart 3-C: **Household net worth relative to disposable income has rebounded more strongly coming out of the recession than previously reported**

Quarterly data

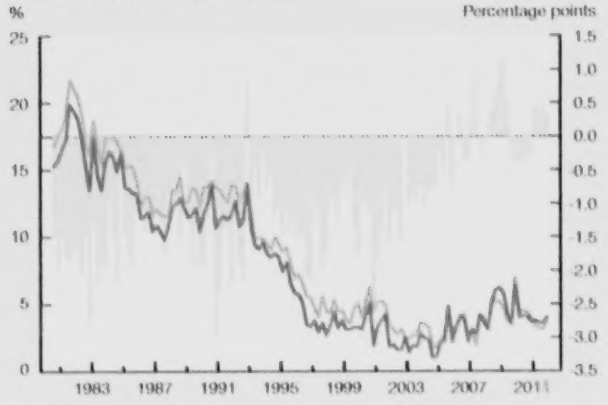


— Household net worth relative to disposable income
— Household net worth relative to disposable income (prior to revisions)

Sources: Statistics Canada and Bank of Canada calculations — Last observations: 2012Q1 and 2012Q2

Chart 3-D: **The household savings rate has been revised somewhat higher in recent years**

Household savings rate; quarterly data



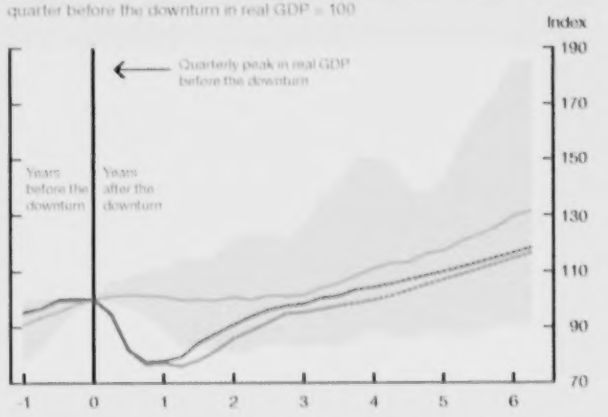
— Savings rate (left scale)
— Savings rate (prior to revisions, left scale)
Difference (right scale)

Sources: Statistics Canada and Bank of Canada calculations — Last observation: 2012Q2

- Updated source data result in a material upward revision to the rate of growth of business investment since the recession, owing to stronger investment in non-residential structures. Hence, business investment is now estimated to have recovered to its pre-crisis level by late 2011, whereas previous estimates implied that recovery had occurred only in mid-2012 (**Chart 3-E**). The stronger recovery in investment implies a higher current capital stock.

Chart 3-E: **Following historical revisions, the recovery in business fixed investment is now closer to its historical average**

Comparison of real business fixed investment across economic cycles; quarter before the downturn in real GDP = 100

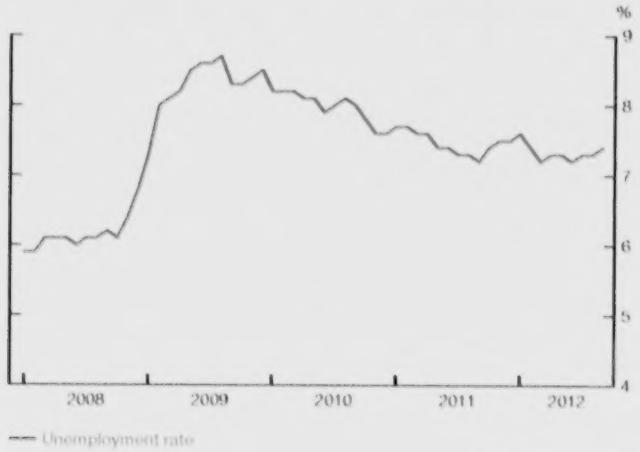


— Current cycle
--- Base-case scenario
— Average of previous cycles (since 1951)
Range of previous cycles (since 1951)
— Current cycle (prior to historical revisions, July *Report*)

Sources: Statistics Canada and Bank of Canada calculations and projections

Chart 24: **The unemployment rate is consistent with the persistence of some slack**

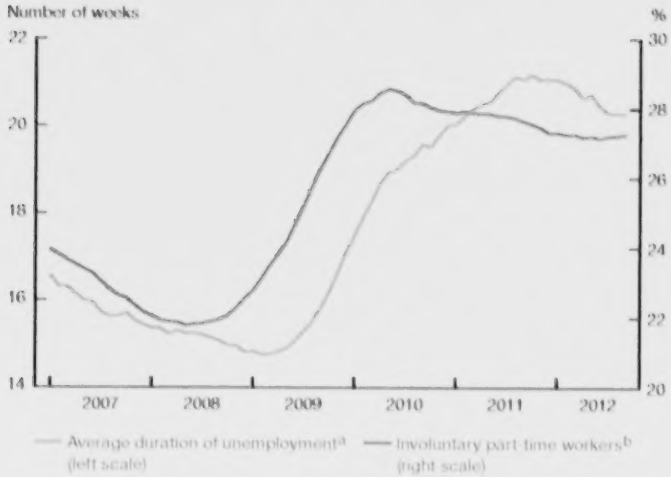
Monthly data



Source: Statistics Canada — Last observation: September 2012

Chart 25: **The duration of unemployment and the proportion of involuntary part-time workers continue to be elevated**

Monthly data



a. Expressed in number of weeks, unadjusted, 12-month moving average
b. Expressed as a percentage of total part-time employment, unadjusted, 12-month moving average

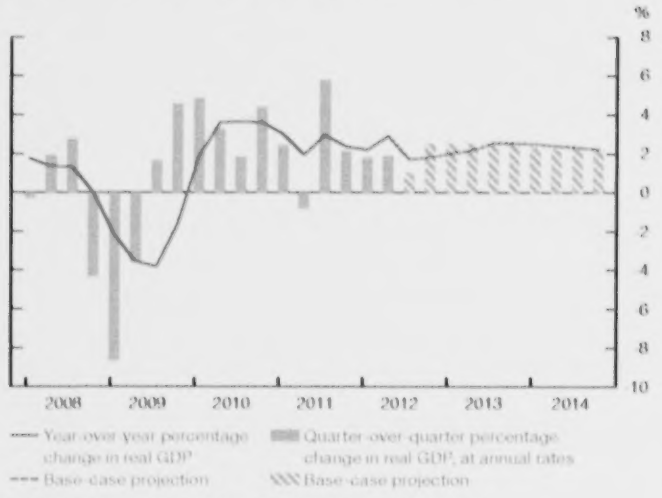
Sources: Statistics Canada and Bank of Canada calculations — Last observation: September 2012

The Real Economy

The Bank expects growth in the Canadian economy to pick up in coming quarters to a somewhat faster pace than that of its production potential (Chart 26). On an average annual basis, real GDP growth is forecast to increase from 2.2 per cent in 2012 to 2.3 per cent in 2013 and 2.4 per cent in 2014 (Table 2). Although available indicators suggest that growth in the third quarter of this year was weaker than expected, the annual growth rate for 2012 is higher than in the July *Report*, owing largely to revisions that show

¶ *The Bank expects growth in the Canadian economy to pick up in coming quarters*

Chart 26: **Real GDP is expected to grow at a moderate pace**



Sources: Statistics Canada and Bank of Canada calculations and projections

Table 2: **Contributions to average annual real GDP growth**
Percentage points[a]

	2011	2012	2013	2014
Consumption	1.4 (1.4)	1.0 (1.1)	1.2 (1.2)	1.2 (1.2)
Housing	0.1 (0.2)	0.3 (0.4)	-0.1 (0.0)	-0.1 (0.0)
Government	0.1 (0.1)	-0.2 (-0.3)	0.3 (0.3)	0.3 (0.3)
Business fixed investment	1.2 (1.4)	0.7 (0.5)	0.7 (0.8)	0.7 (0.8)
Subtotal: Final domestic demand	2.7 (3.1)	1.8 (1.7)	2.1 (2.3)	2.1 (2.3)
Exports	1.4 (1.4)	0.8 (1.3)	1.0 (1.0)	1.6 (1.4)
Imports	-1.8 (-2.2)	-0.7 (-0.9)	-0.8 (-0.9)	-1.3 (-1.2)
Subtotal: Net exports	-0.4 (-0.8)	0.1 (0.4)	0.2 (0.1)	0.3 (0.2)
Inventories	0.3 (0.1)	0.3 (0.0)	0.0 (-0.1)	0.0 (0.0)
GDP	2.6 (2.4)	2.2 (2.1)	2.3 (2.3)	2.4 (2.5)
Memo items:				
Potential output	1.6 (1.6)	2.0 (2.0)	2.1 (2.1)	2.2 (2.2)
Real gross domestic income (GDI)	3.7 (3.8)	1.5 (1.6)	2.8 (2.3)	2.6 (2.3)

a. Figures in parentheses are from the base-case projection in the July 2012 *Monetary Policy Report*. Those for potential output are from Technical Box 2 in the October 2011 *Monetary Policy Report*.

stronger growth in the third and fourth quarters of 2011 than previously estimated.[7] The outlook for growth is broadly similar to that expected in the July *Report* (Table 3).

The Bank continues to anticipate that consumption and business fixed investment will be the primary drivers of real GDP growth over the projection horizon, supported by accommodative domestic financial conditions (Chart 27). The pickup in growth from its trough in the third quarter of this year is expected to be driven primarily by a modest increase in net exports. This balances ongoing competitiveness challenges with the projected

The Bank continues to anticipate that consumption and business fixed investment will be the primary drivers of real GDP growth

7 Economic growth in the third and fourth quarters of 2011 was 5.8 per cent and 2.1 per cent, respectively, revised up from 4.5 per cent and 1.9 per cent. This stronger growth has the effect of lifting the average level of GDP in 2012, other things equal, thus contributing to a higher rate of annual average growth this year. (See **bankofcanada.ca**; keyword search: "Measuring Economic Growth.")

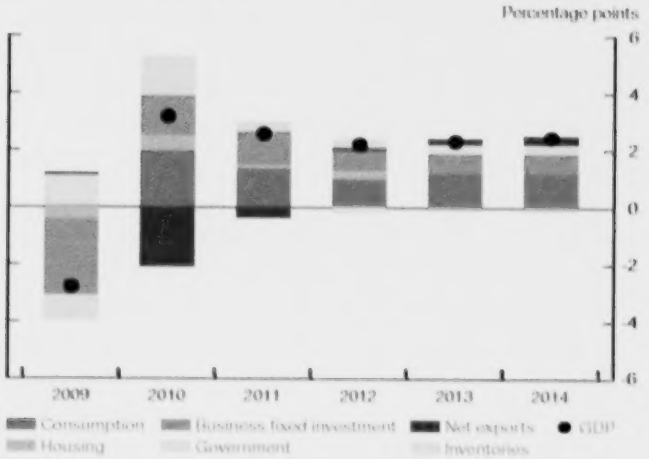
Table 3: **Summary of the base-case projection for Canada[a]**

	2011	2012				2013				2014			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Real GDP (quarter-over-quarter percentage change at annual rates)	2.1 (1.9)	1.8 (1.9)	1.9 (1.8)	1.0 (2.0)	2.5 (2.3)	2.6 (2.3)	2.6 (2.4)	2.6 (2.6)	2.5 (2.7)	2.3 (2.5)	2.2 (2.3)	2.2 (2.2)	2.2 (2.2)
Real GDP (year-over-year percentage change)	2.4 (2.2)	2.2 (1.8)	2.9 (2.5)	1.7 (1.9)	1.8 (2.0)	2.0 (2.1)	2.2 (2.3)	2.5 (2.4)	2.5 (2.5)	2.5 (2.6)	2.4 (2.6)	2.3 (2.4)	2.2 (2.3)
Core inflation (year-over-year percentage change)	2.1 (2.1)	2.1 (2.1)	2.0 (2.0)	1.5 (1.9)	1.6 (1.9)	1.7 (1.9)	1.8 (2.0)	2.1 (2.0)	2.1 (2.1)	2.1 (2.1)	2.0 (2.0)	2.0 (2.0)	2.0 (2.0)
Total CPI (year-over-year percentage change)	2.6 (2.6)	2.4 (2.4)	1.6 (1.7)	1.2 (1.2)	1.5 (1.6)	1.4 (1.5)	1.4 (1.5)	1.7 (2.0)	2.0 (2.0)	2.0 (2.0)	2.0 (2.0)	2.0 (2.0)	2.0 (2.0)
Total CPI excluding the effect of the HST and changes in other indirect taxes (year-over-year percentage change)	2.5 (2.5)	2.2 (2.2)	1.4 (1.6)	1.1 (1.1)	1.4 (1.5)	1.4 (1.5)	1.5 (1.6)	1.8 (2.1)	2.1 (2.1)	2.1 (2.1)	2.0 (2.0)	2.0 (2.0)	2.0 (2.0)
WTI[b] (level)	94 (94)	103 (103)	93 (93)	92 (86)	92 (87)	93 (88)	94 (89)	94 (89)	94 (89)	93 (88)	92 (88)	92 (87)	91 (87)
Brent[b] (level)	109 (109)	118 (118)	109 (109)	109 (100)	113 (99)	112 (98)	110 (98)	108 (98)	107 (97)	105 (96)	104 (96)	102 (95)	101 (94)

a. Figures in parentheses are from the base-case projection in the July 2012 *Monetary Policy Report*.
b. Assumptions for the prices of West Texas Intermediate and Brent crude oil (US$ per barrel), based on an average of futures contracts over the two weeks ending 19 October 2012.

Chart 27: **Private domestic demand is projected to account for most of Canada's economic growth**

Contributions to real GDP growth



Sources: Statistics Canada and Bank of Canada calculations and projections

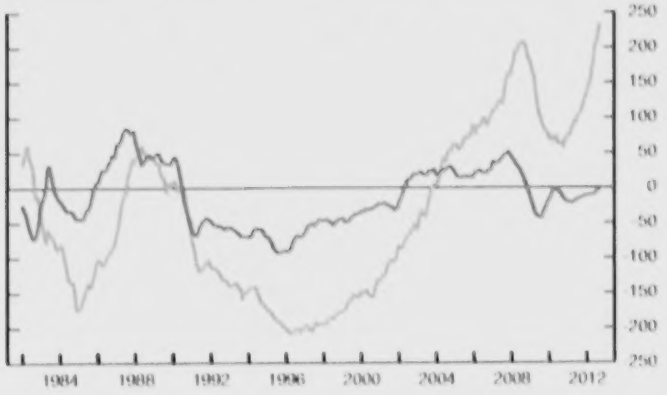
improvement in the growth of foreign activity, which is expected to pick up from an average rate of 3.5 per cent over the second and third quarters of 2012 to roughly 7 per cent over the projection horizon (**Chart 16**). The outlook for final domestic demand is slightly weaker than in the July *Report*, although the changes are relatively small. While the recent further easing in financial conditions and the favourable effects of higher terms of trade on Canadian incomes and wealth should provide additional support to domestic demand, recent indicators suggest slightly less momentum in residential and business fixed investment than previously projected.

Growth in household spending has been moderate. Growth in consumption, which was weak through the first half of 2012, is estimated to have picked up in the third quarter. Housing investment declined in the second and third

◂ *With signs of overbuilding, the level of housing investment still remains near historical highs*

Chart 28: **New construction of multiple-family dwellings remains high despite signs of overbuilding**

Adjusted for population aged 25+ years, deviation from historical average, per 100,000 people, major metropolitan areas



Sources: Canada Mortgage and Housing Corporation, Statistics Canada, and Bank of Canada calculations

Last observation: September 2012

quarters, following strong gains over the previous three quarters. Nonetheless, with signs of overbuilding, the level of housing investment still remains near historical highs (Chart 28).

Growth in consumption is expected to be moderate

It is possible that the elevated level of household debt is beginning to induce a more cautious attitude among Canadian households. As a result, the Bank's outlook for growth in household spending is little changed from the July *Report*, despite the supportive impact of improved financial conditions and higher terms of trade in recent months. Growth in consumption is thus expected to be moderate over the projection horizon, at a rate slightly below that of disposable income (Chart 29), resulting in a small increase in the personal savings rate (Chart 30). Residential investment is projected to contract, with its share of the overall economy declining from the current elevated level (Chart 31). In this regard, the measures implemented in recent months by federal authorities are expected to contribute to a more sustainable housing market in Canada.

Residential investment is projected to contract

The household debt-to-income ratio is now estimated to be 161 per cent, a more elevated level than previously thought

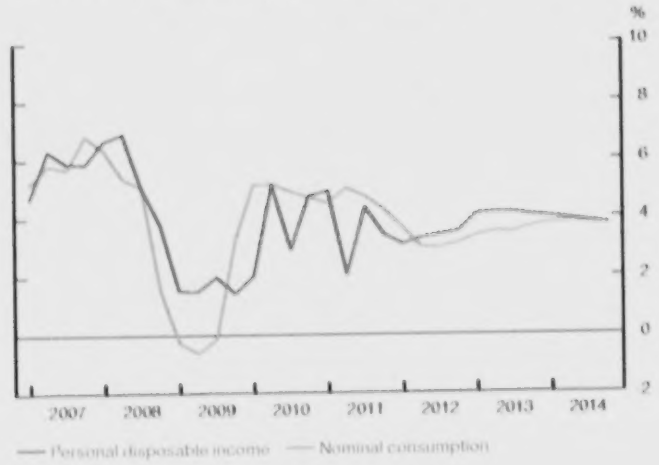
The comprehensive revisions to the System of National Accounts did not alter the recent broad profile of household spending. There are a few noteworthy adjustments, however. The household savings rate is now estimated to have been higher in recent years than previously reported, although it is generally lower than previously estimated prior to 2006 (Box 3). In addition, household net worth is now estimated to be higher than previously reported, showing a stronger recovery since the recession. Finally, the household debt-to-income ratio is now estimated to be 161 per cent as of the second quarter of 2012, a more elevated level than previously thought.

The Bank continues to forecast solid growth in business fixed investment, although global uncertainty is having an impact

The Bank continues to forecast solid growth in business fixed investment over the projection horizon. This forecast reflects the strong financial positions of Canadian firms (Chart 32), favourable credit conditions, high commodity prices and the strong Canadian dollar, as well as the impetus to improve productivity amid heightened pressures to become more competitive. Although these factors have been marginally more supportive to the outlook

Chart 29: **Growth in personal disposable income is expected to be moderate**

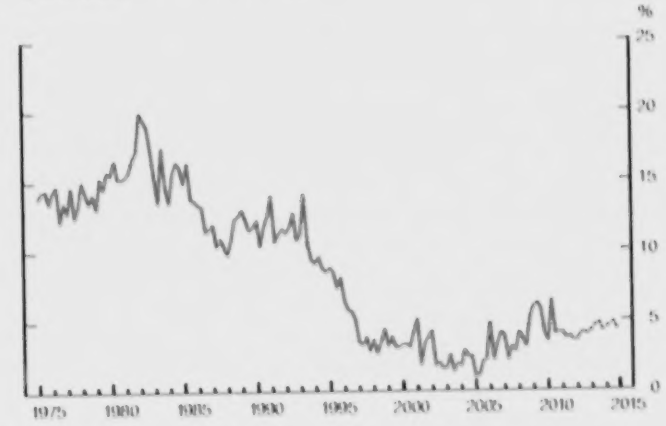
Year-over-year percentage change, quarterly data



Sources: Statistics Canada and Bank of Canada calculations and projections

Chart 30: **The personal savings rate is expected to rise slightly but to remain relatively low**

Quarterly data



Sources: Statistics Canada and Bank of Canada projections

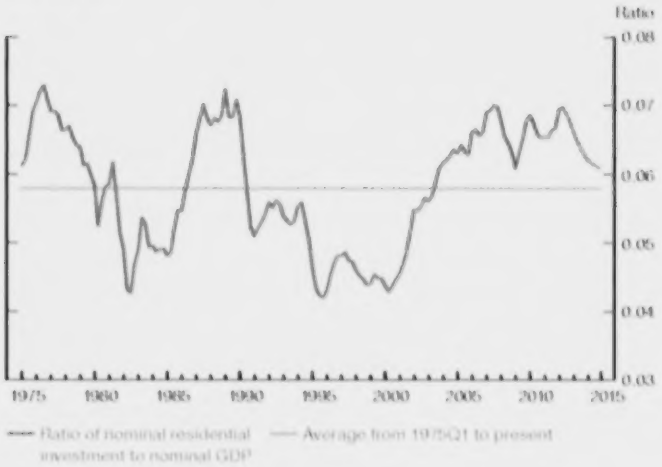
for capital spending in recent months, the projected growth profile for business fixed investment is somewhat less robust than in the July *Report* (**Box 3**, **Chart 3**-E). This is mainly because global economic uncertainty appears to be having a larger impact on the capital spending plans of Canadian businesses, as reflected in the less-positive responses to the Bank's autumn *Business Outlook Survey*. Moreover, many firms reported that following the recent completion of significant projects, they would now focus on achieving a more intensive use of existing capital.

Government spending is expected to contribute modestly to real GDP growth over the projection horizon. As in the July base-case scenario, these contributions are projected to be considerably weaker than has been typical historically (**Chart 33**), in line with the plans of federal and provincial governments to consolidate spending.

◂ *Government spending is expected to contribute modestly to real GDP growth*

Chart 31: **The share of residential investment in GDP is expected to decline from its current high level**

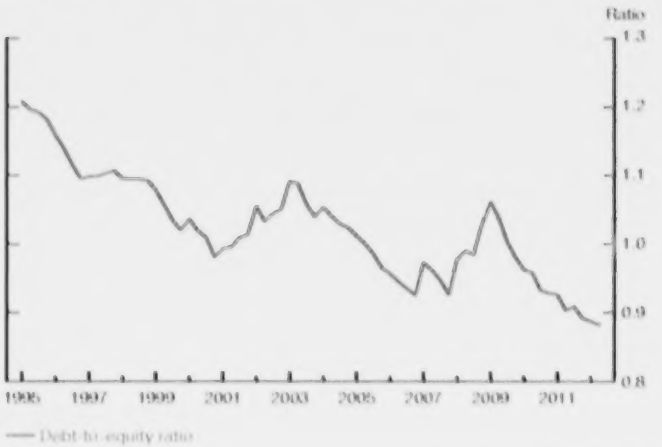
Quarterly data



Sources: Statistics Canada and Bank of Canada calculations and projections

Chart 32: **With leverage at historic lows, non-financial firms remain well positioned to invest**

Quarterly data

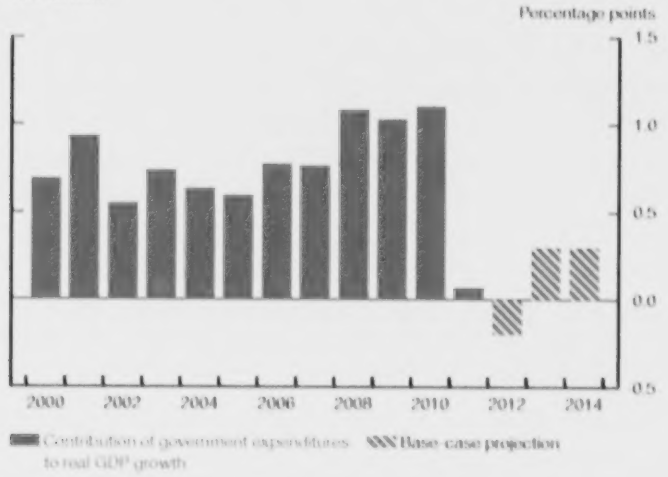


Source: Statistics Canada Last observation: 2012Q2

The recovery in net exports is expected to remain weak. Growth in Canada's exports is projected to pick up but remain relatively moderate despite stronger growth in foreign activity (**Chart 16**), owing to ongoing competitiveness challenges, including the persistent strength of the Canadian dollar. As a result, the level of Canada's exports is not forecast to regain its pre-recession peak until the first half of 2014 (**Chart 34**). In contrast, the level of imports has already returned to its pre-recession peak. Partly as a result, Canada's current account balance has declined from a surplus before the recession to a deficit of around 4 per cent of GDP. This sizable current account deficit, which has been somewhat larger in recent quarters than previously estimated, is projected to diminish gradually over the forecast horizon (**Chart 35**).

Chart 33: **The contribution of government spending to real GDP growth is expected to be modest**

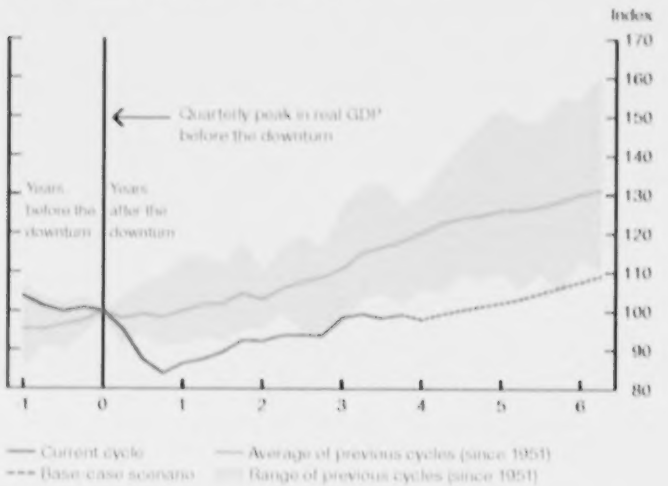
Annual data



Sources: Statistics Canada and Bank of Canada calculations and projections

Chart 34: **The recovery in exports is expected to remain weak**

Comparison of real exports across economic cycles; quarter before the downturn in real GDP = 100, quarterly data



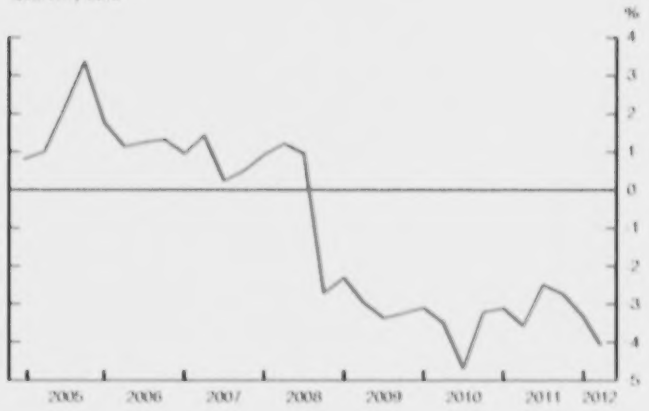
Sources: Statistics Canada and Bank of Canada calculations and projections

The projected growth in exports is slightly stronger than in the July *Report*, with the higher assumed value of the Canadian dollar only partly offsetting the stronger-than-anticipated growth profile for U.S. business investment and the somewhat firmer recovery from low levels of U.S. demand for housing and automobiles. The projected growth in imports is similar to July, despite the higher assumed value for the Canadian dollar, reflecting the marginally weaker outlook for domestic demand. As a result, the projected contribution to real GDP growth from net exports is slightly higher than in the July *Report*, although it remains relatively modest.

* *Projected growth in exports is slightly stronger, with the higher assumed value of the Canadian dollar only partly offsetting stronger U.S. demand*

Chart 35: **Canada's current account has been in deficit since the start of the crisis**

Quarterly data



Sources: Statistics Canada and Bank of Canada calculations Last observation: 2012Q2

Given the above projection for real GDP, the Canadian economy is expected to gradually absorb the currently small amount of slack in coming quarters, reaching full capacity by the end of 2013, slightly later than in the July *Report*.

The Canadian economy is expected to reach full capacity by the end of 2013

Inflation

Core CPI inflation averaged 1.5 per cent in the third quarter, down from an average of 2.0 per cent in the first half of the year. Alternative measures of core inflation have also fallen below 2 per cent in recent months (**Chart 36**). The decline in core CPI inflation has been greater than anticipated, reflecting somewhat softer prices across a wide range of goods and services. In contrast, gasoline prices have been firmer than expected in recent months, reflecting both higher world prices for crude oil and higher margins. As a result, total CPI inflation was in line with the Bank's expectations at 1.2 per cent in the third quarter, down from 1.6 per cent in the second quarter and 2.4 per cent in the first quarter (**Chart 37**).

The decline in core CPI inflation has been greater than anticipated

Gasoline prices have been firmer than expected

Inflation expectations remain well anchored. The October Consensus Economics forecasts for total CPI inflation in 2012 and 2013 were 1.8 per cent and 1.9 per cent, respectively. As reported in the Bank's autumn *Business Outlook Survey*, almost all firms surveyed continue to expect average inflation over the next two years to remain within the 1 to 3 per cent inflation-control range. Market-based measures of longer-term inflation expectations also continue to be consistent with the 2 per cent inflation-control target.

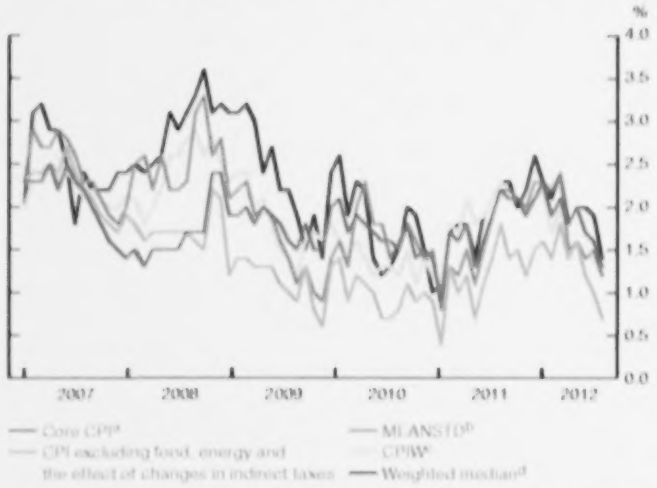
Inflation expectations remain well anchored

Core inflation is expected to remain subdued in the near term before increasing gradually in coming quarters to reach 2 per cent by the middle of 2013, as the economy gradually absorbs the current small degree of slack and inflation expectations remain well anchored (**Chart 37**). In addition, growth in labour compensation is expected to stay moderate, consistent with recent trends in wage growth (**Chart 38**), thus contributing to

Core inflation is expected to remain subdued in the near term before increasing gradually in coming quarters to reach 2 per cent by the middle of 2013

Chart 36: **Alternative measures of core inflation have fallen below 2 per cent**

Alternative measures of core inflation, year-over-year percentage change, monthly data

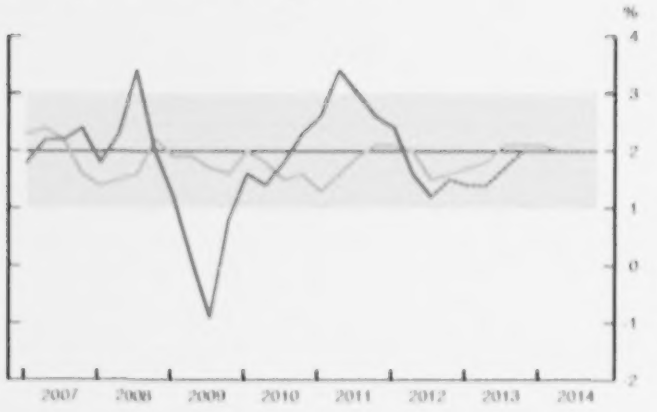


a. Excludes eight of the most volatile components and the effect of changes in indirect taxes on the remaining components
b. Weighted average of the cross-sectional distribution of price changes that has been trimmed to exclude values further than 1.5 standard deviations from the average and the effect of changes in indirect taxes
c. Adjusts each CPI basket weight by a factor that is inversely proportional to the component's variability and is adjusted to exclude the effect of changes in indirect taxes
d. Percentage change in the CPI component at the midpoint of the cross-sectional distribution of weighted price variations, adjusted to exclude the effect of changes in indirect taxes

Sources: Statistics Canada and Bank of Canada — Last observation: September 2012

Chart 37: **Total CPI inflation in Canada is projected to remain below 2 per cent until the end of 2013**

Year-over-year percentage change, quarterly data

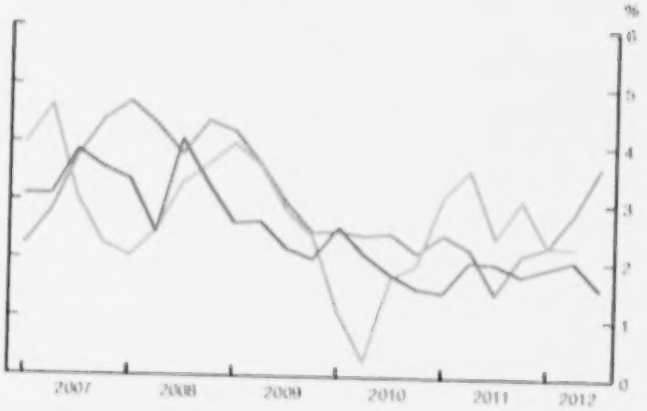


a. CPI excluding eight of the most volatile components and the effect of changes in indirect taxes on the remaining components

Sources: Statistics Canada and Bank of Canada calculations and projections

Chart 38: **Increases in labour compensation have continued to be moderate, on balance**

Quarterly data



— Effective annual increase in base wage rates for newly negotiated settlements (all industries)
— Compensation per hour (year-over-year percentage change)
— Average hourly earnings of permanent workers (year-over-year percentage change)

Note: The 2012Q3 estimates for the effective annual increase in base wage rates for newly negotiated settlements is approximated by the average of July and August data.

Sources: Statistics Canada and Human Resources and Skills Development Canada

Last observations: 2012Q2 and 2012Q3

the projected stability in inflation. As previously assumed, the indirect effects associated with the restoration of the provincial sales tax in British Columbia are expected to have a minor effect on core inflation over the projection horizon.[8]

This projection for core inflation is weaker than in the July *Report*. Similarly, total CPI inflation is expected to remain below 2 per cent for a somewhat longer period than previously anticipated, converging to the target by the end of 2013. In addition to the lower profile for core inflation, this reflects a larger expected decline in gasoline prices from current elevated levels over the bulk of the projection horizon.

Total CPI inflation is expected to converge to the target by the end of 2013

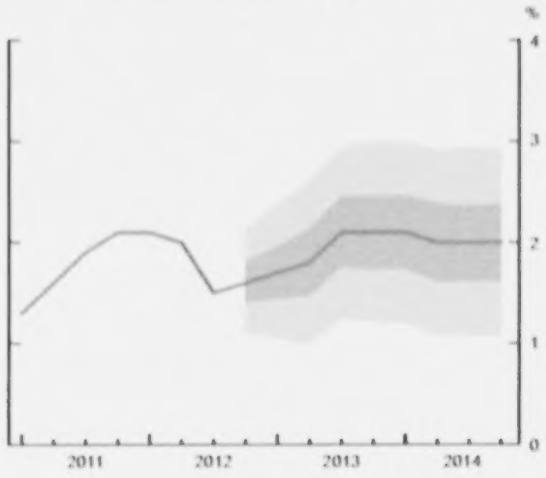
This projection includes a gradual reduction in monetary stimulus over the projection horizon, consistent with achieving the inflation target.

The uncertainty surrounding the Bank's inflation projection is illustrated using fan charts. **Chart 39** and **Chart 40** depict the 50 per cent and 90 per cent confidence bands for year-over-year core inflation and total CPI inflation from the fourth quarter of 2012 to the end of 2014.

8. See the April 2012 *Monetary Policy Report*.

Chart 39: **Projection for core CPI inflation**

Year-over-year percentage change, quarterly data

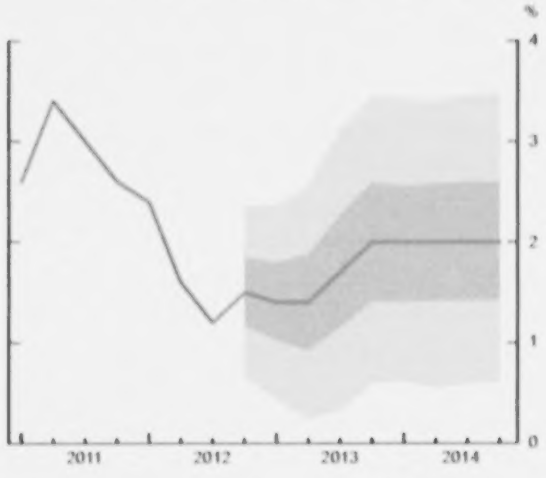


Base-case scenario
50 per cent confidence interval
90 per cent confidence interval

Source: Bank of Canada

Chart 40: **Projection for total CPI inflation**

Year-over-year percentage change, quarterly data



Base-case scenario
50 per cent confidence interval
90 per cent confidence interval

Source: Bank of Canada

Risks to the Outlook

The inflation outlook in Canada is subject to significant risks. In particular, the Bank's projection assumes that authorities in Europe are able to contain the ongoing crisis, and that the U.S. fiscal cliff will be avoided. Imbalances in the Canadian household sector remain the biggest domestic risk. This risk is two-sided.

The three main upside risks to inflation in Canada relate to the possibility of higher global inflationary pressures, stronger Canadian exports and renewed momentum in Canadian residential investment.

- Global inflationary pressures could be more persistent than currently projected if potential output in advanced economies is lower than anticipated or if the substantial, additional monetary policy stimulus provided by major central banks boosts prices more than expected.
- Growth in Canadian exports could be stronger than expected if exporters improve their competitiveness more rapidly than currently assumed or if output growth in the United States is stronger than projected.
- While residential investment in Canada has softened recently after reaching record-high levels, it could regain momentum, thereby reinforcing existing imbalances.

The three main downside risks to inflation in Canada relate to the European crisis, weaker demand for Canadian exports and the possibility that growth in Canadian household spending could be weaker.

- Failure to contain the crisis in Europe is the most serious risk facing the global and Canadian economies. The effects on Canada through financial, confidence and trade channels would be substantial, given the size and importance of the euro area to the global economy.
- Demand for Canadian exports could be weaker than expected if the authorities in the United States do not smooth the path of fiscal consolidation to avoid the fiscal cliff, if the slowdown in emerging-market economies is greater than expected, or if unconventional policy measures undertaken by foreign authorities have an outsized effect on exchange rates.
- Continuing high household debt levels in Canada could lead to a sharper-than-expected deceleration in household spending. Relatedly, if there were a sudden weakening in the Canadian housing sector, it could have sizable spillover effects on other areas of the economy.

Overall, the Bank judges that the risks to the inflation outlook in Canada are roughly balanced over the projection period.